CN 078-04495 REV. 02/14

COMMONWEALTH OF PUERTO RICO PUERTO RICO ELECTRIC POWER AUTHORITY

SAN JUAN, PUERTO RICO

www.prepa.com



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September 25, 2014

Héctor L. Vélez Cruz, Esq. Associate Regional Counsel for Environmental Protection Agency Region II, Caribbean Field Office City View Plaza II, Suite 7000 #48 RD. 165 km 1.2 Guaynabo, PR 00968-8069

Dear Mr. Vélez Cruz:

RE: Consent Decree (Civil Action No. 93-2527 & Modification-2004) – Request for Partial Termination
Puerto Rico Electric Power Authority

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The Puerto Rico Electric Power Authority (PREPA) have formally requested to meet with the United States Environmental Protection Agency (EPA) on August 20, 2010; February 25, 2011; May 23, 2012; and, June 15, 2012 in order to begin the process conducive to the partial termination of certain provisions of the abovementioned Consent Decree and its Modification, pursuant to Section XXVII of the Consent Decree. (See Appendix A) These provisions, among others, represent requirements that should no longer be in effect, since they have been developed, implemented and completed, and no further compliance actions are required. As for the Air Compliance Programs, Section V.B.2 of the Consent Decree states that they "shall be implemented for the periods specified in paragraphs B.3 through B.12 of the Air Compliance Attachment. Those programs, which are ongoing, shall remain in effect at least until termination of Section V of the Consent Decree, as provided in Section XXVII ("Termination") of the Consent Decree". For this matter, paragraph 135(a) of Section XXVII of the Consent Decree states as a requirement for termination that "PREPA has complied with the terms and conditions of this Consent Decree that are applicable to the Compliance Programs for three years".

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On July 22, 2014, representatives from PREPA, EPA and the United States Department of Justice (DOJ) met to begin the discussion towards the termination of some of the Consent Decree Programs ("the Programs"). As a result, the EPA and DOJ requested PREPA to submit information regarding PREPA's compliance with the Programs for their review and evaluation. As agreed in the meeting, PREPA is hereby submitting a discussion of the Programs compliance, as well as evidence that supports such determination.

Based on the above, PREPA is formally requesting the EPA to review and approve the termination of the following programs/provisions of the Consent Decree and its Modification of 2004, as well as to begin the process toward jointly filling in the Court a Stipulation for Partial Termination for such Programs:

Inspection and Analysis Program:

(Section V.B.3 of the Consent Decree and Section B.3 of the Air Compliance Attachment):

- a. As acknowledged on Section A.4 of the Air Compliance Attachment of the Consent Decree, "PREPA has represented to EPA that it has developed and implemented the Inspection and Analysis and the Hardware Upgrade Programs in accordance with the terms provided in Section V of the Consent Decree and the Air Compliance Attachment, including the dates set forth in the Table at paragraph B.2 of the Air Compliance Attachment."
- b. As acknowledged on Section B.2 of the Air Compliance Attachment of the Consent Decree, "PREPA has represented that the Inspection and Analysis and the Hardware Upgrade Programs have been implemented in accordance with the following schedule: ...".
- c. Certification of Program Completion and Submission of the Inspection and Analysis Program Summary Report for the affected generating units were timely submitted to EPA, according to Section B.3 of the Air Compliance Attachment.
- d. As provided in the Consent Decree, PREPA consolidated the Inspection and Analysis Program and the Hardware Upgrade Programs summary reports, according to Section B.3.c(4) of the Air Compliance Attachment.
- e. Enclosed is a copy of the supporting documents regarding the termination of this Program. (See Appendix B)

2. Hardware Upgrade Program:

(Section V.B.4 of the Consent Decree and Section B.4 of the Air Compliance Attachment):

- a. As acknowledged on Section A.4 of the Air Compliance Attachment of the Consent Decree, "PREPA has represented to EPA that it has developed and implemented the Inspection and Analysis and the Hardware Upgrade Programs in accordance with the terms provided in Section V of the Consent Decree and the Air Compliance Attachment, including the dates set forth in the Table at paragraph B.2 of the Air Compliance Attachment."
- b. As acknowledged on Section B.2 of the Air Compliance Attachment of the Consent Decree, "PREPA has represented that the Inspection and Analysis and the Hardware Upgrade Programs have been implemented in accordance with the following schedule: ...".
- c. Certification of Program Completion and Submission of the Inspection and Analysis Program Summary Report for the affected generating units were timely submitted to EPA, according to Section B.3 of the Air Compliance Attachment.
- d. As provided in the Consent Decree, PREPA consolidated the Inspection and Analysis Program and the Hardware Upgrade Program summary reports, according to Section B.4.d(4) of the Air Compliance Attachment.
- e. Enclosed is a copy of the required supporting documents regarding the termination of this Program. (See Appendix B)
- 3. Optimization Program:

(Section V.B.5 of the Consent Decree and Section B.5 of the Air Compliance Attachment)

- a. PREPA complied with the requirements set forth regarding the Optimal Operating Ranges Establishment Tests for the applicable generating units, as follows:
 - i. South Coast Units 1 (08/07/96), 2 (08/01/96), 3 (12/20/96), 4 (06/14/96), 5 (11/26/96) and 6 (11/26/96).
 - ii. Aguirre Units 1 (08/08/96) and 2 (01/30/97).
 - iii. Palo Seco Units 1 (04/07/97), 2 (11/16/96), 3 (04/24/97) and 4 (10/22/96).
 - iv. San Juan Units 7 (03/06/97), 8 (03/17/97), 9 (03/27/97) and 10 (03/19/97).
- b. PREPA complied with the requirements set forth regarding the Optimal Operating Ranges Revision/Verification Tests for the applicable generating units, as follows:
 - South Coast Units 1 (08/07/96), 2 (08/01/96), 3 (12/19/96), 4 (06/14/96), 5 (09/30/96) and 6 (11/26/96).
 - ii. Aguirre Units 1 (02/10/97) and 2 (03/11/97).

- iii. Palo Seco Units 1 (10/27/97), 2 (08/20/97), 3 (03/15/98) and 4 (12/10/97).
- iv. San Juan Units 7 (04/17/97), 8 (12/02/97), 9 (05/23/97) and 10 (09/20/97).

4. Continuous Monitoring Program:

(Section V.B.6 of the Consent Decree and Section B.6 of the Air Compliance Attachment)

- a. As required under Section B.6 of the Air Compliance Attachment, PREPA completed the development and implementation of the following requirements, as well as complying with the terms and conditions of the Continuous Monitoring Program for more than three (3) years:
 - i. Install, repair, replace, calibrate and test the monitors listed in paragraph B.6.a(1) through B.6.a(10) of the Air Compliance Attachment, as well as the opacity monitors required in accordance with paragraph B.12.
 - ii. Measure average, record, calibrate and conduct quality assurance testing for the monitors, in accordance with paragraph B.6.b of the Air Compliance Attachment.
 - iii. Calibrate, operate, performance test, and conduct quality assurance procedures for each oxygen and opacity monitors.
 - iv. Store all data recorded by the monitors.
 - v. Observe the monitoring data generated in order to ensure the Optimal Operating Ranges are implemented and maintained.
 - vi. Prepare complete quarterly reports for submission in the Quarterly Air Compliance Program Status Reports.
 - vii. Calculate the heat rate of each generating unit on a monthly basis.
 - viii. Compare the sootblowing steam pressure data with the Optimal Operating Range for sootblowing.
 - ix. Install alarms in the control room for the monitors listed in paragraphs B.6.a (1), (4), (7), and (10).
 - x. Respond to any deviation from the Optimal Operating Range, in coordination with the Operations and Maintenance Program.
 - xi. Document any deviation from the Optimal Operating Ranges recorded during the implementation of the Continuous Monitoring Program.
 - xii. Ensure that each Shift Supervisor reviews and records findings regarding the data generated on a daily basis.
 - xiii. Implement a Telemetric System to electronically transmit, at all times when the generating unit is operating at loads equal or greater than 50%, the data generated from the oxygen, viscosity, fuel flow, and gross power monitors, as well as the sootblowing status.
 - xiv. Prepare and certify Continuous Monitoring Program Monthly Reports.
 - xv. Prepare and certify a Continuous Monitoring Program Summary Report.

- b. The development, implementation and compliance with these requirements by PREPA have been evaluated by the EPA, the Environmental Review Contractor (ERC) and the Independent Air Compliance Auditor (IACA) through frequent compliance audits since the date of entry of the Consent Decree, and no non-compliance notifications or penalties have been issued.
- c. Considering the large amount of supporting documentation regarding PREPA's compliance and the termination of this Program, the documents are available to EPA upon request through PREPA's Environmental Protection and Quality Assurance Division. The Program's Summary Report and the Monthly Reports have been timely submitted to EPA by PREPA throughout the Consent Decree's duration.

5. Fuel Quality Program:

(Section V.B.7 of the Consent Decree and Section B.7 of the Air Compliance Attachment)

- a. As required under Section B.7 of the Air Compliance Attachment, PREPA completed the development and implementation of the following requirements, as well as complying with the terms and conditions of the Fuel Quality Program for more than three (3) years:
 - i. Combust and continue to combust only fuel that meets the specifications set forth in paragraph B.7.a.
 - ii. Conduct all sampling and analysis in accordance to the methods set forth in paragraph B.7.b.
 - iii. Receive from the fuel supplier a certified laboratory analysis of the fuel prior to receipt, as required under paragraph B.7.c.
 - iv. Sample and analyze the fuel blended after of shipment for asphaltenes, vanadium, viscosity and sulfur, as well as certify the analysis results as required in paragraph B.7.e.
 - v. Provide taps for sampling prior to each oil heater at each generating unit, as well as fill containers supplied by EPA, EQB and/or IACA, as requested.
 - vi. Prepare and certify Fuel Quality Program Monthly Reports.
 - vii. Prepare and certify a Fuel Quality Program Summary Report.
- b. The development, implementation and compliance with these requirements by PREPA have been evaluated by the EPA, the Environmental Review Contractor (ERC) and the Independent Air Compliance Auditor (IACA) through frequent compliance audits since the date of entry of the Consent Decree, and no non-compliance notifications or penalties have been issued.
- c. Considering the large amount of supporting documentation regarding PREPA's compliance and the termination of this Program, the documents are

available to EPA upon request through PREPA's Environmental Protection and Quality Assurance Division. The Program's Summary Report and the Monthly Reports have been timely submitted to EPA by PREPA throughout the Consent Decree's duration.

6. Spare Parts Inventory Program:

(Section V.B.8 of the Consent Decree and Section B.8 of the Air Compliance Attachment)

- a. As required under Section B.8 of the Air Compliance Attachment, PREPA completed the development and implementation of the following requirements, as well as complying with the terms and conditions of the Spare Parts Inventory Program for more than three (3) years:
 - Maintain a Spare Parts Inventory of spare hardware for each generating unit.
 - ii. Develop, maintain, retain and make available to EPA upon request, a computerized Spare Parts Inventory Tracking System.
 - iii. Develop, maintain and retain lists and/or logs with respect to the components in the Spare Parts Inventory.
 - iv. Implement and document the implementation of hardware component purchasing and replenishment.
 - v. Prepare and certify Spare Parts Inventory Program Quarterly Reports.
 - vi. Prepare and certify a Spare Parts Inventory Program Summary Report.
- b. The development, implementation and compliance by PREPA with these requirements have been evaluated by the EPA, the Environmental Review Contractor (ERC) and the Independent Air Compliance Auditor (IACA) through frequent compliance audits since the date of entry of the Consent Decree, and no non-compliance notifications or penalties have been issued.
- c. Considering the large amount of supporting documentation regarding PREPA's compliance and the termination of this Program, the documents are available to EPA upon request through PREPA's Environmental Protection and Quality Assurance Division. The Program's Summary Report and the Quarterly Reports have been timely submitted to EPA by PREPA throughout the Consent Decree's duration.
- 7. Operations and Preventive Maintenance Programs:

(Section V.B.9 of the Consent Decree and Section B.9 of the Air Compliance Attachment)

a. As required under Section B.9 of the Air Compliance Attachment, PREPA completed the development and implementation of the following requirements, as well as complying with the terms and conditions of the Operations and Preventive Maintenance Programs for more than three (3) years: Develop and implement operation checklists and preventive maintenance checklists for each generating unit with schedules for inspection.

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- Develop and implement operations activities and preventive maintenance activities relating to the hardware components that affect or potentially affect compliance with Rules 403 and 404 of the PRRCAP.
 - 1. Operate each generating unit within the Optimal Operating Ranges established and/or verified, except during startup, shutdown and malfunction periods.
 - 2. Respond and document operator response to data and analysis generated under the Continuous Monitoring Program.
 - 3. Inspect and analyze each component listed in paragraph B.9.b.
 - Implement inspections pursuant to the checklists developed in order to determine if each generating unit is functioning properly.
 - 5. Water-wash each boiler, at a minimum, every eighteen months.
 - 6. Steam clean the tubes of each generating unit two to four times per day.
 - 7. Clean burner tips and guns at a frequency of at least one elevation per working day per operating generating unit.
 - 8. Coordinate the Operations and Preventive Maintenance Programs with the Continuous Monitoring Program.
 - 9. Conduct an Environmental Outage and inspection using checklists, at least every eighteen months, at each generating unit.
 - 10. Document any deficiencies discovered during performance of the Operations and Preventive Maintenance Programs.
- iii. Develop and implement visible emissions readings.
- iv. Develop and implement Operations Manuals for each power plant.
- v. Develop and implement Air Compliance Program Courses.
- vi. Prepare and certify the Operations and Preventive Maintenance Programs Monthly Reports.
- vii. Prepare and certify an Operations and Preventive Maintenance Programs Summary Report.
- b. The development, implementation and compliance by PREPA with these requirements have been evaluated by the EPA, the Environmental Review Contractor (ERC) and the Independent Air Compliance Auditor (IACA) through frequent compliance audits since the date of entry of the Consent Decree, and, except for the visible emissions readings location issue that led to the Consent Decree's Modification of 2004, no other non-compliance notifications or penalties have been issued. PREPA has been complying with the visible emissions readings requirements stipulated in Section III of the

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Modification since 2004, and no other non-compliance notifications or penalties have been issued afterwards regarding this issue.

c. Considering the large amount of supporting documentation regarding PREPA's compliance and the termination of this Program, the documents are available to EPA upon request through PREPA's Environmental Protection and Quality Assurance Division. The Operations Manuals and the Program's Summary Report and the Monthly Reports have been timely submitted to EPA by PREPA throughout the Consent Decree's duration.

Economizer Sootblowing Installation Program:

(Section V.B.10 of the Consent Decree and Section B.10 of the Air Compliance Attachment):

- a. As acknowledged on Section A.7 of the Air Compliance Attachment of the Consent Decree, "...PREPA has represented that it has begun to implement the Economizer Sootblower Installation Program and the Independent Auditor Program in accordance to the terms provided in Section V of the Consent Decree and the Air Compliance Attachment."
- b. PREPA completed the installation of the sootblowers in the affected generating units on or before the dates required in the schedule provided in Section B.10.b of the Air Compliance Attachment of the Consent Decree.
- c. Certifications of Program Completion for the affected generating units were timely submitted to EPA, according to Section B.10.c of the Air Compliance Attachment.
- d. Enclosed is a copy of the supporting documents regarding the termination of this Program. (See Appendix C)

9. Balance Draft Conversion Program:

(Section V.B.11 of the Consent Decree and Section B.11 of the Air Compliance Attachment):

- a. PREPA completed the conversion to balance draft of the applicable generating units on or before the dates required in the schedule provided in Section B.11.b of the Air Compliance Attachment of the Consent Decree.
- Certifications of Program Completion for the affected generating units were timely submitted to EPA, according to Section B.11.c of the Air Compliance Attachment.
- c. Enclosed is a copy of the supporting documents regarding the termination of this Program. (See Appendix D)

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10. Opacity Monitor Installation Program:

(Section V.B.12 of the Consent Decree and Section B.12 of the Air Compliance Attachment):

- a. PREPA completed the installation of new opacity monitors at the stacks of the affected generating units on or before September 30, 1998, as required in Section B.12 of the Air Compliance Attachment of the Consent Decree.
- Certifications of Program Completion for the affected generating units were timely submitted to EPA, according to Section B.12.e of the Air Compliance Attachment.
- Enclosed is a copy of the supporting documents regarding the termination of this Program. (See Appendix E)

1. Method-9 Opacity Readings:

(Section III of the Consent Decree Modification)

- a. PREPA has been complying with the visible emissions readings requirements stipulated in Section III of the Modification since the date of entry on 2004.
- b. The development, implementation and compliance with these requirements by PREPA have been evaluated by the EPA, the Environmental Review Contractor (ERC) and the Independent Air Compliance Auditor (IACA) through frequent compliance audits since the date of entry of the Consent Decree Modification, and no non-compliance notifications or penalties have been issued.
- c. Considering the large amount of supporting documentation regarding PREPA's compliance and the termination of this Program, the documents are available to EPA upon request through PREPA's Environmental Protection and Quality Assurance Division.

12. Fuel Oil Sulfur Content:

(Section IV of the Consent Decree Modification)

- a. PREPA complied with the scheduled required for the use of oil on the applicable units since the date of entry of the Modification, and has continued to use fuel oil with a sulfur content of no more than 0.50% in all these generating units.
- b. The development, implementation and compliance with these requirements by PREPA have been evaluated by the EPA, the Environmental Review Contractor (ERC) and the Independent Air Compliance Auditor (IACA) through frequent compliance audits since the date of entry of the Consent Decree Modification, and no non-compliance notifications or penalties have been issued.

c. Considering the large amount of supporting documentation regarding PREPA's compliance and the termination of this Program, the documents are available to EPA upon request through PREPA's Environmental Protection and Quality Assurance Division.

13. Optimal Operating Ranges:

(Section V of the Consent Decree Modification)

- a. PREPA complied with the requirements set forth regarding the revision of the then current Optimal Operating Ranges for the applicable generating units, as follows:
 - South Coast Units 3 (12/8/04), 4 (07/16/04), 5 (10/26/04) and 6 (10/26/04).
 - ii. Aguirre Units 1 (06/23/04) and 2 (10/20/05).
 - iii. Palo Seco Units 1 (06/24/05), 2 (05/26/04), 3 (12/04/04) and 4 (06/25/05).
 - iv. San Juan Units 7 (03/29/04), 8 (02/10/05), 9 (12/15/03) and 10 (05/07/04).
- b. The development, implementation and compliance with these requirements by PREPA have been evaluated by the EPA, the Environmental Review Contractor (ERC) and the Independent Air Compliance Auditor (IACA) through frequent compliance audits since the date of entry of the Consent Decree Modification, and no non-compliance notifications or penalties have been issued.
- c. The results of the Optimal Operating Ranges revision tests were included in the respective Quarterly Status Reports and timely submitted to EPA, as required in the Modification.

14. Nitrogen Oxide Reduction:

(Section VI of the Consent Decree Modification)

- a. PREPA complied with the requirements set forth regarding the initial NOx Baseline Testing for the applicable generating units, as follows:
 - i. South Coast Units 3 (12/18/04), 4 (12/12/04), 5 (12/13/04) and 6 (12/13/04).
 - ii. Aguirre Units 1 (06/06/04) and 2 (12/16/04).
 - iii. Palo Seco Units 1 (03/04/05), 2 (12/15/04), 3 (12/15/04) and 4 (12/14/04).
- b. PREPA complied with the requirements set forth regarding the NOx Optimization Testing for the applicable generating units, as follows:
 - South Coast Units 3 (12/15/05), 4 (11/28/05), 5 (06/29/06) and 6 (03/16/06).

ii. Aguirre Units 1 (04/20/06) and 2 (09/22/05).

- iii. Palo Seco Units 1 (10/25/05), 2 (10/27/05), 3 (02/24/06) and 4 (10/06/05).
- c. PREPA complied with the requirements set forth regarding the initial NOx Relative Maintained Reduction Testing for the applicable generating units, as follows:
 - i. South Coast Units 3 (04/28/06), 4 (04/28/06), 5 (11/27/06) and 6 (11/16/06).

ii. Aguirre Units 1 (09/12/06) and 2 (09/08/06).

iii. Palo Seco Units 1 (07/12/06), 2 (06/20/06), 3 (06/15/06) and 4 (06/14/06).



- d. PREPA has conducted NOx Relative Maintained Reduction Testing for the applicable generating units on a yearly basis, demonstrating that the results obtained through the NOx Optimization Testing have been relatively maintained throughout the subsequent years.
- e. As stated in paragraph 37 of the Consent Decree Modification, "The NOx Program is not a Compliance Program as defined in the Consent Decree. As such, notwithstanding Paragraph 35 above, compliance with the NOx Program for three years shall not be a precondition to for granting a termination of the Consent Decree."
- f. The NOx baseline Testing and NOx Optimization Testing Reports were timely submitted to EPA, as required in the Modification. The results of the NOx Relative Maintained Reduction Testing have been timely included in the respective Quarterly Status Reports.

15. Fuel Used for Startup:

(Section VII of the Consent Decree Modification)

- a. PREPA has complied with the requirements set forth for the use of diesel fuel during Cold Start Conditions, as scheduled in the Modification.
- b. The development, implementation and compliance with these requirements by PREPA have been evaluated by the EPA, the Environmental Review Contractor (ERC) and the Independent Air Compliance Auditor (IACA) through frequent compliance audits since the date of entry of the Consent Decree Modification, and no non-compliance notifications or penalties have been issued.
- c. The progress of the diesel fuel program has been included in each Quarterly Status Report and timely submitted to EPA, as required in the Modification.

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16. Additional Commitments by PREPA:

(Section IX of the Consent Decree Modification)

 a. PREPA has not and will not use fuel oil with sulfur content greater than 0.50% at Palo Seco.

1/7. Independent Air Compliance Auditor (IACA) Program:

(Section V.E of the Consent Decree and Section D of the Air Compliance Attachment):

- a. On May 14, 1999 (within sixty (60) days of the date of entry of the Consent Decree), PREPA notified EPA, in writing, of three (3) proposed contractors (RW Beck, Gayá & Asociados, and Vicenty, Heres & Lauria) to perform the duties as the IACA.
- b. On July 20, 1999, EPA sent PREPA the written authorization to proceed with RW Beck as the IACA. In the letter, EPA determined that the rest of the contractors were not authorized and issued a notification of deficiency for both of them. Within twenty (20) days of the receipt of this letter, PREPA notified EPA that RW Beck was selected as the IACA.
- On November 18, 1999, PREPA notified EPA and the Department of Justice (DOJ) that RW Beck was contracted as the IACA.
- d. From November 1999 to December 2009, RW Beck was contracted to perform the duties of the IACA. Although Section E.6 of the Consent Decree states that "PREPA shall not be obliged to expend in excess of \$125,000 per year in direct contract costs for the Air Compliance Auditor", PREPA agreed to continue contracting RW Beck as the IACA for amounts that exceeded the maximum limit. The following summarizes the RW Beck-PREPA contract years and the contract limit paid by PREPA for each year:

i. 1999 - 2000: \$125,000 ii. 2000 – 2001: \$135,000 iii. 2001 - 2002: \$135,000 iv. 2002 – 2003: \$135,000 v. 2003 – 2004: \$135,000 vi. 2004 – 2005: \$152,000 vii. 2005 – 2006: \$152,000 viii. 2006 - 2007: \$152,000 ix. 2007 – 2008: \$152,000

x. 2008 – 2009:

e. On December 2009, RW Beck refused to renew the contract under the same terms and conditions of the 2008-2009 contract, requesting to either increase the contract limit or reduce the scope of work and services to be rendered. Understanding that the IACA duties and scope of work required could not be

\$152,000

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modified without modifying the Consent Decree, PREPA had no other choice but to opt for not renewing the contract.

- f. PREPA complied with the IACA Program stipulations for a period of ten (10) years, exceeding the three-year compliance requirement set forth on Section XXVII (Termination) of the Consent Decree.
- g. The IACA Audit Reports were timely submitted to EPA by RW Beck, as required in the Consent Decree.
- h. Enclosed is a copy of the supporting documents regarding the termination of this Program. (See Appendix F)

18. Clean Water Act Compliance Program:

(Section VI of the Consent Decree)

Part I - Compliance Actions:

- a. PREPA completed all the compliance actions established in the Consent Decree for each power plant. Enclosed please find summary tables which include the compliance project description and completion date for each power plant.
- b. Enclosed is a copy of the supporting documents regarding the termination of this Program. (See Appendix G)

Part II - Interim Effluent Limitations

a. PREPA complied with the interim effluent limits established for each compliance action on or before the date of entry of the Consent Decree. In the case of the effluent temperature limit for Outfall 001 of the San Juan Steam Power Plant, it was maintained until January 2007, when EPA finally granted a Thermal Variance Request for the cooling water discharge as part of the renewed NPDES permit.

Part III - Quarterly Reporting

- a. PREPA complied with this requirement since the date of entry of the Consent Decree. PREPA continues to timely prepare and submit to EPA the Quarterly Status Reports for each Power Plant. The Quarterly Status Reports include the exceedances reported in the monthly Discharge Monitoring Reports (DMRs) with the corresponding corrective actions.
- b. Considering the large amount of supporting documentation regarding PREPA's compliance and the termination of this Program, the documents are available to EPA upon request through PREPA's Environmental Protection and Quality Assurance Division.

19. SPCC/OIL POLLUTION PREVENTION COMPIANCE PROGRAM:

(Section VII of the Consent Decree)

Part I - Spill Prevention Control and Countermeasures Plans

- a. On September 10, 2003, PREPA submitted to EPA an updated version of the Spill Prevention Control and Countermeasure Plans (SPCCPs) for the Aguirre, San Juan, Palo Seco and South Coast Power Plants, as well as the Monacillo Transmission Center for EPA's approval.
- b. On December 3, 2003, EPA approved the SPCCPs for the Aguirre, San Juan, Palo Seco and South Coast power plants, and Monacillo Transmission Center.
- c. Enclosed is a copy of the supporting documents regarding the termination of this Program. (See Appendix H)

Part II - Spill Prevention Maintenance and Construction Program Plans Final Report:

- a. On January 18, 2001, PREPA submitted to EPA the Spill Prevention Maintenance and Construction Program (SPMCP) for the Palo Seco, Aguirre, San Juan and South Coast power plants.
- b. On June 6, 2003, PREPA submitted to EPA the revised SPMCP for the Aguirre power plant.
- c. On July 30, 2003, EPA approved the revised SPMCP for the Aguirre power plant.
- d. On August 8, 2003, PREPA submitted to EPA the revised SPMCP for Palo Seco, San Juan and South Coast power plants.
- e. On October 20, 2003, EPA approved the revised SPMCP for Palo Seco, San Juan and South Coast Plants.
- f. On March 9, 2009, PREPA submitted to EPA the final report for the SPMCP.
- g. Enclosed is a copy of the supporting documents regarding the termination of this Program. (See Appendix I)

Part III - SPCC Coordinator Program:

a. PREPA developed and implemented the designation of a full time position for the SPCC Coordinator at each applicable facility, who worked on matters related to all SPCC requirements under Section VII of the Consent Decree. PREPA has exceeded the Consent Decree's requirement related to the timeframe stipulated by designating personnel to perform the SPCC Coordinator duties for more than two (2) years.

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b. The SPCC Coordinator position for each applicable facility has been included in the corresponding SPCCP.

20. <u>CERCLA Section 103 and EPCRA Section 304 Compliance Program</u>: (Section IX of the Consent Decree):

Part II - In-House Release Prevention Program Plan:

- a. On May 13, 1999, PREPA submitted to EPA the In-House Release Prevention Program Plan (the IRP Plan), pursuant to Section IX, Part II of the Consent Decree.
- b. On January 25, 2002, EPA approved the IRP Plan, subject to the incorporation of EPA's modification request to the Plan.
- c. On April 16, 2002, PREPA submitted the modified IRP Plan, as requested by EPA.
- d. On August 26, 2002, EPA approved the IRP Plan.
- e. Enclosed is a copy of the supporting documents regarding the termination of this Program. (See Appendix J)

Part III - CERCLA Section 103 and EPCRA Section 304 Training Program:

- a. On May 18, 1999, PREPA submitted to EPA the CERCLA Section 103 and EPCRA Section 304 Training Program (IRP Training Seminar) curriculum, pursuant to Section IX, Part III of the consent decree.
- b. On January 25, 2002, EPA approved the curriculum, subject to the incorporation of EPA's modification request.
- c. On April 16, 2002, PREPA submitted the modified curriculum, as requested by EPA. On August 26, 2002, EPA approved the IRP Training Seminar.
- Enclosed is a copy of the supporting documents regarding the termination of this Program. (See Appendix J)

Part IV - In-House Release Prevention Program Training Seminar Final Report:

- a. On September 24, 2004, PREPA submitted to EPA the In-House Release Prevention Program Training Seminar Final Report.
- b. Enclosed is a copy of the supporting documents regarding the termination of this Program. (See Appendix J)

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21. Underground Storage Tank Compliance Program:

(Section X of the Consent Decree):

- a. On April 20, 1999 (within thirty (30) days of entry), PREPA submitted to EPA the certifications required under the Program for the San Juan, Palo Seco, Aguirre and Costa Sur power plants, as well as the Monacillo Transmission Center and the Aguirre Combined Cycle plant.
- b. Enclosed is a copy of the supporting documents regarding the termination of this Program. (See Appendix K)

22. Environmental Review Contractor Program:

(Section XI of the Consent Decree and Section XI of the Consent Decree Modification):

- a. PREPA complied with the requirement creating an interest-bearing escrow account to fund the ERC. Once created, PREPA deposited the amounts required under the consent decree (\$1,000,000, plus interest) and an additional amount of \$100,000, as required in the Consent Decree Modification of 2004. The following summarizes the payment schedule:
 - i. April 16, 1999 \$200,000
 - ii. April 14, 2000 \$200,000
 - iii. June 11, 2001 \$200,000
 - iv. March 18, 2002 \$200,000
 - v. March 10, 2003 \$200,000
 - vi. July 10, 2004 \$100,000
- b. As required in the Consent Decree, PREPA submitted on May 18, 1999 the ERC Workplan to EPA for its approval (within sixty (60) days of entry). On November 19, 1999, EPA officially disapproved the workplan, requiring PREPA to revise and resubmit the document, as per EPA's findings and a suggested workplan submitted with the notification letter. After an informal negotiation process to review and revise the workplan, PREPA submitted the final version on March 2000, which was later approved by EPA.
- c. On May 26, 2000, PREPA notified in writing to EPA the names and qualifications of three (3) proposed contractors (University of Puerto Rico-Medical Science Campus-School of Public Health; Metropolitan University-School of Environmental Affairs; and Polythecnic University of Puerto Rico) considered capable of performing the functions of the ERC. On December 14, 2000, EPA responded in writing that they determined that the Graduate School of Public Health of the University of Puerto Rico (GSPH-UPR) qualified for the position of ERC.

- d. On June 29, 2001, PREPA contracted the GSPH-UPR as the ERC (Contract No. 2002-P00097). This one-year contract was extended on a yearly basis until September 2008, when all funds deposited on the escrow account, plus interest, were fully expended.
- e. The ERC Audit Reports were timely submitted to EPA by GSPH-UPR, as required in the Consent Decree.
- f. Enclosed is a copy of the supporting documents regarding the termination of this Program. (See Appendix L)

23 Additional Environmental Projects Coordinator

(Section XII.A of the Consent Decree):

- a. On March 26, 1999, PREPA submitted to EPA the name of the person designated as the Additional Environmental Projects Coordinator.
- b. Enclosed is a copy of the supporting documents regarding the termination of this Program. (See Appendix M)

24. Fire Department Hazmat Training:

(Section XII.B of the Consent Decree):

- a. On April 15, 1999, PREPA submitted to EPA the Workplan for the Fire Department Hazmat Training (40 hrs.) to be offered at a technician level.
- b. On September 10, 1999, EPA conditionally approved the Workplan, as submitted.
- c. On October 12, 1999, PREPA submitted to EPA a revised version of the Workplan, following the EPA's recommendations.
- d. On April 24, 2000, EPA approved the revised Workplan submitted by PREPA.
- e. On December 15, 2000, PREPA completed training sessions to the selected personnel for the Fire Department of Puerto Rico's different regions (Aguadilla, Ponce and San Juan).
- f. On February 22, 2001, PREPA submitted to EPA the final report for the Fire Department Hazmat Training, pursuant Section XII.7 of the Consent Decree.
- g. Although Section XII.B.6 of the Consent Decree states that "PREPA shall spend at least \$100,000 to accomplish all of the studies, plans, tasks, obligations, and work that PREPA is required to perform pursuant to this subsection of the Consent Decree.", PREPA invested the total of \$144,895.70, as detailed in the final report.

Héctor Vélez Cruz Page - 18 – September 25, 2014

> Enclosed is a copy of the supporting documents regarding the termination of this Program. (See Appendix N)

25. Payment of Civil Penalty:

(Section XIII of the Consent Decree and Section X of the Consent Decree Modification)

a. PREPA timely paid the EPA a civil penalty for past violations and totaling of \$1,500,000, as required under the Consent Decree. Such quantity was paid in three (3) installments, as per the schedule set forth in the Consent Decree:

i. \$620,000 on April 30, 1999

- ii. \$430,000 on September 19, 2000
- iii. \$450,000 on September 7, 2001
- b. On September 30, 2004, PREPA timely paid the EPA a civil penalty of \$300,000 as required under the Consent Decree Modification.

PREPA acknowledges and appreciates the EPA and DOJ efforts to expeditiously attend this request and partially terminate the abovementioned provisions. In order to accomplish this goal, PREPA suggests to appoint a task force composed of EPA and PREPA representatives to schedule and meet in a monthly basis, or more frequently if required, to address the details. For additional information, please contact us at 787-521-4960.

Cordially,

Rafael Marrero Carrasquillo, Head Environmental Protection and Quality Assurance Division

Enclosures

c Peter M. Flynn - DOJ José C. Font - EPA CEPD Juan F. Alicea - PREPA Sonia Miranda - PREPA

APPENDIX A

CN 078-04495 REV. 06/10

GOVERNMENT OF PUERTO RICO PUERTO RICO ELECTRIC POWER AUTHORITY

SAN JUAN, PUERTO RICO

www.prepa.com



GPO BOX 364267 SAN JUAN, PR 00936-4267

August 20, 2010

CERTIFIED MAIL 7007 0220 0004 1047 1357 Mr. Bruce Gelber, Chief Environmental Enforcement Section Environmental and Natural Resources Division US Department of Justice PO Box 761, Ben Franklin Station Washington, DC 20044

CERTIFIED MAIL 7007 0220 0004 1047 1364
Ms. Silvia Carreño
Associate Regional Counsel for Caribbean Programs
Environmental Protection Agency
Caribbean Environmental Protection Division
Centro Europa Bldg.
Ponce de Leon Ave 1492
San Juan PR 00907-4127

Dear Mr. Gelber and Ms. Carreño:

Re: Puerto Rico Electric Power Authority DOJ Case No. 90-5-2-1-1-1750 Stipulation of Partial Termination

On March 19, 1999, the Puerto Rico Electric Power Authority (PREPA) and the US Department of Justice signed a Consent Decree to mitigate deficiencies found in our facilities. According to the Consent Decree, Section XXVII, Termination, Paragraph 136, the Parties (PREPA and EPA) may, at any time, agree that certain provisions of the Consent Decree should no longer be in effect. In this case, the Parties file jointly in the Court a "Stipulation of Partial Termination".

Based on this Paragraph, PREPA intends to seek closure for some of the programs. PREPA will prepare and submit to EPA for evaluation, a final report for each of the programs. We request a meeting to collect your input regarding this proposal and answer any questions you may have. If you need additional information, please contact our office at (787) 521-4959.

Cordially,

Francisco E, Lopez, Head Environmental Protection and Quality Assurance Division

MRJUF

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CN 078-04495 REV. 06/10

GOVERNMENT OF PUERTO RICO PUERTO RICO ELECTRIC POWER AUTHORITY

SAN JUAN, PUERTO RICO

GPO BOX 364267 SAN JUAN, PR 00936-4267

www.prepa.com



February 25, 2011

Mr. Bruce Gelber, Chief Environmental Enforcement Division Environmental and Natural Resources Division US Department of Justice PO Box 761, Ben Franklin Station Washington, DC 20044 CM 7010 0290 0002 7602 0846

Ms. Silvia Carreño
Associate Regional Counsel for Caribbean Programs
Environmental Protection Agency
Caribbean Environmental Protection Division
Centro Europa Building
Ponce de León Ave. 1492
San Juan, PR 00907-4127
CM 7010 0290 0002 7602 0853

Dear Mr. Gelber and Ms. Carreño:

Re: Puerto Rico Electric Power Authority

DOJ Case No. 90-5-2-1-1-1750 Stipulation of Partial Termination

Reference is made to the Puerto Rico Electric Power Authority's (PREPA) letter of August 20, 2010, in which we request a meeting to discuss our intention to close some programs from the Consent Decree.

Since there has been no action about this request, PREPA again proposes a meeting to discuss the programs ready for closure, and the procedure to file a stipulation of partial termination.

Please contact us at (787) 521-4959 to set up a meeting date. Thanks very much for your attention to this matter.

Cordially.

Environmental Protection and Quality Assurance Division CN 078-04495 REV. 06/10

GOVERNMENT OF PUERTO RICO PUERTO RICO ELECTRIC POWER AUTHORITY

SAN JUAN, PUERTO RICO

www.prepa.com

May 23, 2012



GPO BOX 364267 SAN JUAN, PR 00936-4267

Mr. José Font Associate Regional Counsel Environmental Protection Agency Caribbean Environmental Protection Division Centro Europa Bldg., Ponce de León Ave 1492 San Juan Pr 00907-4127

Dear Mr. Font:

Re:

Puerto Rico Electric Power Authority

Consent Decree

DOJ Case No. 90-5-2-1-1-1750 Stipulation of Partial Termination

On March 19, 1999, the Puerto Rico Electric Power Authority (PREPA) and the US Department of Justice signed a Consent Decree to mitigate deficiencies found in our facilities. According to the Consent Decree, Section XXVII, Termination, Paragraph 136, the Parties (PREPA and EPA) may, at any time, agree that certain provisions of the Consent Decree should no longer be in effect. In this case, the Parties file jointly in Court a "Stipulation of Partial Termination".

Based on this paragraph, PREPA intends to seek closure for some of the programs. PREPA will prepare and submit to EPA for evaluation, a report detailing the programs completed. We request a meeting to collect your input regarding this proposal and answer any questions you may have.

If you need additional information, please contact our office, at (787) 521-4959.

Cordially.

Javier Morales Tañón, Head **Environmental Protection**

and Quality Assurance Division

Lourdes Rodríguez- EPA

José W. Rivera Cacho - PREPA

MR/vvm

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ĈN 078-04495 REV. 06/10

GOVERNMENT OF PUERTO RICO PUERTO RICO ELECTRIC POWER AUTHORITY

SAN JUAN, PUERTO RICO

www.prepa.com

June 15, 2012



GPO BOX 364267 SAN JUAN, PR 00936-4267

Mr. José Font Associate Regional Counsel Environmental Protection Agency Citiview Plaza II Suite 7000 Guaynabo, PR 00968-8069

Dear Mr. Font:

RE: Puerto Rico Electric Power Authority

Consent Decree

DOJ Case No. 90-5-2-1-1-1750 Stipulation of Partial Termination 77(C 7334 12 July 15 Fil 2: 38

On March 19, 1999, the Puerto Rico Electric Power Authority (PREPA) and the US Department of Justice signed a Consent Decree to mitigate deficiencies found in some of our facilities.

Section XXVI, paragraph 136, of the Consent Decree states the following: "Notwithstanding paragraph 135 of this Section, the Parties may, at any time, agree that certain provisions of this Consent Decree should no longer be in effect. If the Parties so agree, The Parties shall file jointly with the court a Stipulation of Partial Termination based on their representation that requirements specified in the Stipulation have been satisfied. In the event a Stipulation of Partial Termination is filed, no action by the Court will be required.

Based on paragraph 136, PREPA requests that the EPA authorizes closure of the programs included in Table I (attached). We request a meeting to discuss the details of the Stipulation of Partial Termination.

Cordially.

Javier Morales Tañón, Head Environmental Protection and Quality Assurance Division

> Lourdes Rodríguez, EPA José W. Rivera Cacho, PREPA

Enclosure

MR/vvm

C

Q:\CARTA EPA\Stipulation of Partial Termination Consent Decree.doc

PUERTO RICO ELECTRIC POWER AUTHORITY Consent Decree of 1999 and its Modification of 2004 Docket No. 93-2527-CCC Program Evaluation

CONSENT DECREE PROGRAM	CONSENT DECREE SECTION	EVALUATION	RECOMMENDATION
CLEAN AIR ACT COMPLIANCE PROGRAM	Section V		
Programs to Assure Achievement and Maintenance of Air Compliance			
Inspection and analysis Program		PREPA performed the inspections and analyses required by the program. Certain components were replaced to ensure compliance.	This section can be closed
Hardware Upgrade Program		PREPA calibrated, installed the necessary component to ensure compliance.	This section can be closed
Optimization Program		Optimal operating ranges were established for each unit. It included revision, adjustment or modification of such OOR's.	This section can be closed
Continuous Monitoring Program		PREPA developed and implemented a continuous monitoring program for each unit required by the CD.	PREPA performs quarterly audits on the monitors. The program is over 99% compliance. This program can be closed. PREPA will continue with periodic audits to the instruments.
Fuel Quality Program		PREPA complied with the dates for change in fuel at Costa Sur, Palo Seco, San Juan and Aguirre	The fuel specs are included in the plants operating permits. This section can be closed.
Spare Parts Inventory Program		PREPA established the program, as required and incorporated it to its EMPAC program where it was established a minimum requirement for each part	This section can be closed
Operations and Preventive Maintenance Program		PREPA developed and implemented a preventive maintenance program, as required.	PREPA annually evaluates the preventive maintenance forms for the environmental monitors, as required by the CD. This program is 99% compliance. This program can be closed but the evaluation should be included in a program of audits regular.
Economizer Sootblower nstallation Program		PREPA performed the required installations of soot blowers at the economizer of each unit	This section can be closed
Balanced Draft Conversion Program		The conversions were performed, on San Juan units 7-10 and Palo Seco units 3 and 4.	This section can be closed
Opacity Monitor Installation Program	,	The opacity monitors were installed in each unit, as required.	This section can be closed

Noncompliance with Rules 403 and 404 of the PRRCAP		PREPA operates its units in compliance with these rules. It also implements corrective actions if deviations occur.	This section can be closed
Quarterly Reporting		PREPA is complying with this requirement.	Section remains in force
Air Compliance Status Report		The Air Compliance Status Reports are prepared and submitted, as required.	This section can be closed
INDEPENDENT AIR COMPLIANCE AUDITOR PROGRAM		The Consent Decree mandated a Budget of no more than \$125,000/yr. This agreement was kept from 1999-2009. The IACA (RW Beck) kept raising the costs of services until it 0065ceeded the limit. PREPA confronted the IACA with the issue and they offer to reduce the scope of services. PREPA finally decided to end the contract.	This section can be closed
CLEAN WATER ACT COMPLIANCE PROGRAM	Section VI		
Compliance Actions			I and the second
San Juan Plant		Compliance is 98.6% for the past 5 years	There is a 2010 Administrative Order OA-CWA-02-2010-3119 issued for violations. A Compliance Plan was submitted, but the deviations continued. This part of the program cannot be closed.
Palo Seco Plant		Compliance is 99.1% for the past 5 years.	This section can be closed
Aguirre Power Complex :		Compliance is 99.6% for the past 5 years.	This section can be closed
South Coast Plant		Compliance is 99.9% for the past 5 years	This section can be closed
Interim Effluent		Work was done under interim limits during the development and construction of the projects.	This section can be closed
Quarterly Reporting		The Quarterly Status Report (QSR) are prepared and submitted, as required.	The information included in the QSR comes from the Monthly Discharge Monitoring Reports. La información incluida en los QSR proviene de los Discharge Monitoring Reports. This is duplicating efforts and PREPA requests the elimination of the QSR requirement.
SPCC/OIL POLLUTION PREVENTION COMPLIANCE	Section VII		
PROGRAM		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
SPCC Plans		All of PREPA's facilities have their SPCCP and they are revised as needed.	This section can be closed
Spill Prevention Maintenance and Construction Program	.1	All of PREPA's facilities have their SPMCP and they are	In a letter of March 9, 2009, PREPA requested EPA to close

* ** ** *******************************	2-2 - 2 -	revised as needed. In February 2009 PREPA submitted the program's final report.	the program.
SPCC Coordinator Program		All the facilities have their own coordinator	This section can be closed
		record and a second sec	
EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT COMPLIANCE PROGRAM (EPCRA)	Section VIII		
Tier I / Tier II Forms for Reporting Periods Prior to Entry of the Consent Decree		All reports from previous periods were submitted to the pertinent agencies.	This section can be closed
Tier I / Tier II Forms for Reporting Periods Following Entry of the Consent Decree		All reports are submitted, as required.	This section can be closed
and the second s			
CERCLA SECTION 103 AND EPCRA SECTION 304 COMPLIANCE PROGRAM (IN- HOUSE)	Section IX		
Compliance with CERCLA Section 103 and EPCRA Section 304		Operations at all installations were brought into compliance with this regulation.	This section can be closed
In-House Release Prevention Program		All the facilities have their program and the details were submitted to EPA.	This section can be closed
CERCLA Section 103 and EPCRA Section 304 Training Program		Training programs with written manuals were prepared. Training was offered to employees and contractors, as required. Program ongoing.	This section can be closed
General Provision Applying to Parts II and III		PREPA fully complied with these provisions	This section can be closed
Company of the second s			
UNDERGROUND STORAGE TANK COMPLIANCE PROGRAM	Section X	Certifications required by the CD were prepared and submitted. All other work required by the CD was performed, as required	This section can be closed
- NVIDONMENTAL			
ENVIRONMENTAL REVIEW CONTRACTOR PROGRAM	Section XI	PREPA fully complied with this requirement until all funds were utilized	This section can be closed
ADDITIONAL ENVIRONMENTAL PROJECTS	Section XII		
Additional Environmental Projects Coordinators		The coordinators were assigned and they completed their tasks, as required.	This section can be closed
Fire Department Hazmat		Training programs with written manuals were prepared. Training was offered to firemen from different municipalities.	This section can be closed
and Acquisition Project		Funds were assigned as	1.8 cuerdas of lands were expropriated. The BPPR has

	another \$1.9 million left. There was a verbal agreement between PREPA, UMET and Cucco. UMET prepared a final report to demonstrate that the program requirements were met. PREPA agrees to transfer the money, if EPA concurs, to a secure account at the UMET for restoration projects at the Cucharillas Marsh.
2004 AIR PROGRAM	
MODIFICATIONS	
Fuel Oil Sulfur Percent	The per cent sulfur in the fuel oil was reduced, as required.
Optimization Operations Ratios	PREPA established a baseline for each unit. The optimal operating ranges were also established for the same unit
Reduction NOx Program	PREPA established a baseline for each unit. The NOx test is run annually on the units at Palo Seco, Costa Sur and Aguirre. Units 5 and 6 at Costa Sur were converted to natural gas on a dual fuel scenario. Since the CD was developed for 100% fuel oil, PREPA requests to remove these units from the test requirement.

APPENDIX B

INSPECTION & ANALYSIS AND HARDWARE UPGRADE PROGRAMS SUMMARY REPORT

PALO SECO

PUERTO RICO ELECTRIC POWER AUTHORITY PALO SECO STEAM POWER PLANT DIVISION

INSPECTION & ANALYSIS AND HARDWARE UPGRADE PROGRAMS SUMMARY REPORT

FOR THE PALO SECO STEAM POWER PLANT DIVISION - UNIT #1 Toa Baja, Puerto Rico



Prepared for

U.S. Environmental Protection Agency April 1999

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I. INSPECTION & ANALYSIS AND HARDWARE UPGRADE PROGRAMS IMPLEMENTATION AND SUMMARY REPORT SUBMISSION **CERTIFICATIONS**

I certify, to the best of my knowledge and belief, that the information contained in or accompanying this submission was prepared under my supervision by qualified personnel who properly gathered and evaluated the information contained in the submission. I further certify that I have reviewed the information submitted and, to the best of my knowledge and belief, it is true, accurate, and complete.

Josué A. Colón Ortiz

Palo Seco Steam Power Plant Division Manager Puerto Rico Electric Power Authority

In my capacity as the Electrical System Director of PREPA, I hereby certify, under penalty of law, that the information contained in or accompanying this submission was prepared by qualified personnel who properly gathered and evaluated the information submitted. I further certify, based on a reasonable inquiry of the person or persons responsible for gathering such information, that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

To the best of my knowledge and belief, the Inspection and Analysis Program has been completed in accordance with Section V of the Consent Decree.

To the best of my knowledge and belief, the Hardware Upgrade Program has been completed in accordance with the requirements of Section V of the Consent Decree.

> Roberto A. Volckers Esteves Electrical System Director Puerto Rico Electric Power Authority

II. INSPECTION & ANALYSIS AND HARDWARE UPGRADE PROGRAMS INTRODUCTION

This summary report is submitted to the Environmental Protection Agency (EPA) by the Puerto Rico Electric Power Authority (PREPA) - Palo Seco Steam Power Plant Division, in order to comply with the requirements established in Section V of the Consent Decree, under both the Inspection and Analysis Program and the Hardware Upgrade Program.

A list of the equipment components that were inspected and analyzed prior and during the Palo Seco Steam Power Plant Division - Unit 1 environmental outage in 1995 is included and detailed. These components were determined to be repaired, replaced or installed during the outage following the results or conditions found on each inspection. This report includes the deficiencies discovered and a synopsis of the steps necessary to correct such deficiencies.

A list of the hardware components that were installed, replaced or repaired during the environmental outage is included and detailed. These components were either repaired, replaced or installed due to the Inspection and Analysis Program activities of the Section V of the Consent Decree between EPA and PREPA. This report details the activities performed and the section or contractor responsible for each activity. Also included are those hardware components determined to be deficient but were not installed, repaired, and/or replaced and the reason thereof.

The Hardware Upgrade Program summary report was consolidated with the Inspection and Analysis Program summary report, since both programs were implemented at the same time for generating Unit#1 following the requirements under Sections B.3.c.(4) and B.4.d. (4) of the Consent Decree's Air Compliance Attachment. The Inspection & Analysis and Hardware Upgrade Programs were completed on March 6, 1995.

III. HARDWARE COMPONENT INSTALLED, REPAIRED, AND/OR REPLACED

Based upon the analysis of the inspection activities pursuant the Inspection and Analysis Program on Palo Seco Steam Power Plant Division - Unit #1 hardware components, the following equipment was determined to be either repaired, installed or replaced in order to ensure the generating unit's environmental compliance with Rules 403 and 404 of the PRRCAP. Also, a description of the deficiency discovered and the steps taken to correct such deficiency are included.

Fuel Oil Burners:

- 1. The flexible hose of the flame scanner assembly on Burner 2A was found damaged. It was replaced with a new one by the Boiler Maintenance Section.
- 2. Burner 1D had a steam leak through the packing of the isolation valve. The packing was replaced with a new one by the Mechanical Maintenance Section.
- 3. All fuel oil guns were checked for the correct dimensions, as a preventive measure. The Mechanical Maintenance Section checked and adjusted the dimensions of fourteen (14) burners at the shop.

Fuel Oil Pumps:

1. The pump governor of the Fuel Oil Pump 1-2 was not working properly during operation. The Pneumatic Section checked and calibrated for proper operation the pump governor.

Fuel Oil Heater:

1. Two fuel oil isolating valves packings of the heating elements were found leaking under normal operation conditions. They were repaired with a new packing, installed by the Mechanical Maintenance Section.

Viscometer:

1.It was determined to install a viscometer on the generating unit, in order to comply with the requirements of the Continuous Monitoring Program. Both the Electronic and Pneumatic Maintenance Sections installed a new viscometer for this unit.

Burner Isolation Valves:

1. Some trifecta valves were found deficient (packing leaks and incomplete travel). The Pneumatic Maintenance Section corrected all deficiencies by replacing the packings and performing travel calibrations.

Combustion Control System:

1. The Pneumatic Maintenance Section recommended the connection of an "oxygen trim" control loop to perform oxygen adjustments during normal boiler operation. The loop connection was completed during the outage.

Duct and Furnace Casing Integrity:

- 1. Two small cracks were during the inspection found at the gas duct casing in the economizer area. The Boiler Maintenance Section repaired both cracks by patching and welding.
- 2. Three (3) manholes in the economizer area needed additional packing during the unit startup. The packing was installed by the Boiler Maintenance Section.
- 3. Caps were in need of repairs to drain the pipe of the gas hopper duct in both air preheaters. They were repaired by the Boiler Maintenance Section.

Air Preheaters:

1. The air preheaters heating elements were washed for initial inspection by Operation personnel using the washing device. The Boiler Maintenance Section recommended additional washing by hydroblasting. It was performed by Induchem (independent contractor).

2. Additional atmospheric drains in the washing device assembly were requested by Operation personnel. They were installed by the Boiler Maintenance Section.

Fans:

1. The Induced Draft Fan 1-1 control drive showed the need of major repairs during the inspection. The Pneumatic Maintenance Section proceeded to completely rebuild the IDF 1-1 control drive.

Steam Coils:

1. The Steam Coil 1-2 had a steam leak on the steam header isolation valve. The Mechanical Maintenance Section corrected the leak by replacing the valve packing with a new one.

Ductwork:

- 1. A manhole door in the suction duct of the Induced Draft Fan 1-1 was found to be not closing properly. It was adjusted and repaired by the Boiler Maintenace Section.
- 2. Some sample nipples in the gas ducts were found damaged during the inspection. They were repaired by the Boiler Maintenance Section.

Instrumentation Components:

- 1. As a preventive measure, the oxygen cells were calibrated for proper operation by the Electronic Maintenance Section.
- 2. As a preventive measure, the opacity meters lenses were cleaned. Also, the tramsmisometer alignment was verified, and a calibration of the equipment was performed by the Electronics Maintenace Section.

Boiler Components Washing:

- 1. The boiler sections and components were determined to be washed and cleaned during the outage to improve the boiler's thermal efficiency and remove old soot particles that affect the opacity. The following works were performed by Induchem (independent contractor).
 - a) All the slag from the furnace was removed and disposed out of the boiler.
 - b) Economizer hoppers were water washed.
 - c) Air preheaters baskets were water washed.
 - d) Induced Draft Fans suction ducts were water washed.
 - e) The reheater and superheater elements were hydroblasted.
 - f) The economizer rear side was hydroblasted.

Pressure Parts:

1. An air leak test was performed to the boiler on February 16, 1995 and no work on the pressure parts was required.

Waterwall Tubes Integrity:

1. The integrity was verified during the air test previously mentioned and no work was required.

IV. HARDWARE UPGRADE PROGRAM - WORKS NOT PERFORMED

The following item was determined to be installed, repaired or replaced in the Inspection and Analysis Program of the EPA-PREPA Consent Decree, but for several reasons, it could not be accomplished in the Unit #1 Environmental Outage of 1995. The item and the reason is described as follows:

1. Both High Pressure Feedwater Heaters were determined to be beyond repair and needed to be replaced by new ones. This activity could not be performed due to the extended amount of time needed by the manufacturer to build and supply the new heaters with the appropriate specifications needed for this unit. This work will be performed during the next extended outage, after receipt of the new heaters to be installed.

PUERTO RICO ELECTRIC POWER AUTHORITY PALO SECO STEAM POWER PLANT DIVISION

INSPECTION & ANALYSIS AND HARDWARE UPGRADE PROGRAMS SUMMARY REPORT

FOR THE PALO SECO STEAM POWER PLANT DIVISION - UNIT #2 Toa Baja, Puerto Rico



Prepared for

U.S. Environmental Protection Agency April 1999

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I. INSPECTION & ANALYSIS AND HARDWARE UPGRADE PROGRAMS IMPLEMENTATION AND SUMMARY REPORT SUBMISSION CERTIFICATIONS

I certify, to the best of my knowledge and belief, that the information contained in or accompanying this submission was prepared under my supervision by qualified personnel who properly gathered and evaluated the information contained in the submission. I further certify that I have reviewed the information submitted and, to the best of my knowledge and belief, it is true, accurate, and complete.

5.10.CA X.C

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Jasué A. Colón Ortiz

Palo Seco Steam Power Plant Division Manager Puerto Rico Electric Power Authority

In my capacity as the Electrical System Director of PREPA, I hereby certify, under penalty of law, that the information contained in or accompanying this submission was prepared by qualified personnel who properly gathered and evaluated the information submitted. I further certify, based on a reasonable inquiry of the person or persons responsible for gathering such information, that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

To the best of my knowledge and belief, the Inspection and Analysis Program has been completed in accordance with Section V of the Consent Decree.

To the best of my knowledge and belief, the Hardware Upgrade Program has been completed in accordance with the requirements of Section V of the Consent Decree.

Roberto A. Volckers Esteves Electrical System Director Puerto Rico Electric Power Authority

II. INSPECTION & ANALYSIS AND HARDWARE UPGRADE PROGRAMS INTRODUCTION

This summary report is submitted to the Environmental Protection Agency (EPA) by the Puerto Rico Electric Power Authority (PREPA) - Palo Seco Steam Power Plant Division, in order to comply with the requirements established in Section V of the Consent Decree, under both the Inspection and Analysis Program and the Hardware Upgrade Program.

A list of the equipment components that were inspected and analyzed prior and during the Palo Seco Steam Power Plant Division - Unit 2 environmental outage in 1995 is included and detailed. These components were determined to be repaired, replaced or installed during the outage following the results or conditions found on each inspection. This report includes the deficiencies discovered and a synopsis of the steps necessary to correct such deficiencies.

A list of the hardware components that were installed, replaced or repaired during the environmental outage is included and detailed. These components were either repaired, replaced or installed due to the Inspection and Analysis Program activities of the Section V of the Consent Decree between EPA and PREPA. This report details the activities performed and the section or contractor responsible for each activity. Also included are those hardware components determined to be deficient but were not installed, repaired, and/or replaced and the reason thereof.

The Hardware Upgrade Program summary report was consolidated with the Inspection and Analysis Program summary report, since both programs were implemented at the same time for generating Unit#2 following the requirements under Sections B.3.c.(4) and B.4.d. (4) of the Consent Decree's Air Compliance Attachment. The Inspection & Analysis and Hardware Upgrade Programs were completed on September 1, 1995.

III. HARDWARE COMPONENT INSTALLED, REPAIRED, and/or REPLACED

Based upon the analysis of the inspection activities pursuant the Inspection and Analysis Program on Palo Seco Steam Power Plant Division - Unit #2 hardware components, the following equipment was determined to be either repaired, installed or replaced in order to ensure the generating unit's environmental compliance with Rules 403 and 404 of the PRRCAP. Also, a description of the deficiency discovered and the steps taken to correct such deficiency are included.

Fuel Oil Burners:

- 1. Some auxiliary air and fuel air nozzle tips showed wear. All of them were replaced as required, by the Boiler Maintenance Section.
- 2. Air leaks through the windbox and corners burners were found. The Boiler Maintenance Section sealed the leaks by patching and welding.
- 3. Most oil guns showed signs of wear and tear. The Mechanical Maintenance Section refurbished and installed sixteen (16) new burners.

Fuel Oil Pumps:

1. As a preventive measure, the Mechanical Maintenance Section installed new mechanical seals and bearings on the Fuel Oil Pump 2-1.

Fuel Oil Heater:

1. Some fuel oil isolating valves packings of the heating elements were found leaking. Six (6) leaks were repaired with new packing installed. Also a steam condensation drain valve was replaced as well as a check valve gasket on the fuel oil header line. All work was performed by the Mechanical Maintenance Section.

2. As a preventive measure, the Pneumatics Maintenance Section removed the temperature control valve of the heater to be repaired in the mechanical shop. The bonnet of the valve was repaired and installed. The actuator was calibrated, painted and greased.

Viscometer:

1. The packing of the viscometer needed to be replaced. The Pneumatics Maintenance Section replaced it with a new one and the air filter and the oil lubricator for the piston were checked in good conditions.

Burner Management System:

1. As a preventive measure, the fuel oil flow transmitter and the steam to oil differential pressure switch were calibrated by the Electronics Maintenance Section.

Burner Isolation Valves:

- 1. The trifecta valve 3A had a steam leak in the body. The Pneumatics Maintenance Section repaired it by installing new packing.
- 2. Some air leaks in the steam pneumatic valves were found. The Pneumatics Maintenance Section replaced two (2) actuators to correct the deficiency.

Atomizing Steam Controls:

1. The atomizing steam pressure regulator had a steam leak in the body. The Pneumatics Maintenance Section replaced the body gasket to seal the leak.

Combustion Control System:

1. Ignitors - The ignitors were cleaned and inspected. Some had spark plugs with failures, and were replaced with new ones. Each ignitor was installed and verified by the Electronics Maintenance Section.

Duct and Furnace Casing Integrity:

- 1. Some air leaks were found in the windbox ducts, and were all repaired by patching and welding. The work was performed by the Boiler Maintenance Section.
- 2. Some gas leaks were found in the air hopper area of the Air Preheater 2-1 and were sealed by patching. The work was performed by the Boiler Maintenance Section.

Tilting Mechanism:

- 1. The burner tilt mechanism was tested and the linkage of the air auxiliary bucket 1A needed to be replaced. It was performed by the Boiler Maintenance Section.
- 2. The actuators of the burner tilts were inspected, and two (2) of them were repaired by the Pneumatics Maintenance Section.

Air Preheaters:

- 1. All radial seals were inspected, and some of them were repaired by the Boiler Maintenance Section at the hot gas side of the A.H. 2-2, due to the damage shown.
- 2. Some stiffeners were replaced by the Boiler Maintenance Section in the cold gas side of the A.H. 2-1, due to wear.
- 3. Tackwelds were repaired at the T-Bar of the cold gas side of the A.H. 2-1 due to damage found during the inspection. Also, tackwelds were repaired at all the cold baskets cover through outer shell at both air preheaters. Additional welding was performed by the Boiler Maintenance Section.

Steam Coils:

- 1. Steam coil panels needed to be cleaned due to dirty deposits in the fins. The steam radiators were cleaned and water washed by the Mechanical Maintenance Section.
- 2. A leak was found on the steam regulator 2-2 isolation valve. A new packing was installed by the Mechanical Maintenance Section.

Ductwork:

1. A manhole door was not closing properly in the hopper area of the gas duct of the AH. 2-1. It was adjusted and repaired by the Boiler Maintenance Section.

Instrumentation Components:

1. Two (2) additional oxygen cells were recommended to be installed in the discharge gas duct (one on each duct) by the Electronics Maintenance Section for additional control purposes. The installation was completed, and the cells calibrated.

Sootblowing System:

- 1. Sootblower 5R was out of service due to transmission problems. The main transmission was replaced by the Boiler Maintenance Section.
- 2. Sootblower 1R had a steam leak on the poppet valve. A gasket web at the flange of the poppet valve was repaired by welding by the Boiler Maintenance Section.

Boiler Components Washing:

- 1. The boiler sections and components were determined to be washed and cleaned during the outage to improve the boiler's thermal efficiency and remove soot particles that affect the opacity. The following works were performed by independent contractors J.R. and Induchem.
 - a) All the slag from the furnace was removed.
 - b) Economizer hoppers were water washed.
 - c) Air preheaters gas and air hoppers were water washed.
 - d) Gas and air ducts were water washed.
 - e) The stack was opened and cleaned.
 - f) The reheater and superheater elements were hydroblasted.
 - g) The economizer rear side was hydroblasted.

Pressure Parts:

- 1. An initial air leak test was performed to the boiler on August 23, 1995 and no leak was found.
- 2. A second air leak test and a hydrotest to 1,000 psig were performed on September 1, 1995 and no leak was found.

Feedwater Heaters:

1. As a preventive measure, all the packings of the non-return valves were replaced with new ones by the Pneumatics Maintenance Section.

Waterwall Tubes Integrity:

1. As a standard operation procedure, a hydrostatic test was performed in the boiler to check for any tube leaks, but no leaks were found.

IV. HARDWARE UPGRADE PROGRAM - WORKS NOT PERFORMED

The following items were determined to be installed, repaired or replaced in the Inspection and Analysis Program of the EPA-PREPA Consent Decree, but for several reasons, they could not be accomplished in the Unit #2 Environmental Outage of 1995. The items and the reasons are described as follows:

- 1. The air preheater cold radial sector plate showed wear. It was recommended to be replaced, but this activity could not be performed due to the lack of scheduled time available. This work will be performed during the next extended outages.
- 2. Both High Pressure Feedwater Heaters were determined to be beyond repair and needed to be replaced by new ones. This could not be done due to the extended amount of time needed by the manufacturer to build and supply the heaters with the appropriate specifications needed for this unit. This work will be performed during the next extended outage, upon receipt of the new heaters to be installed.
- 3. The "Forced Draft Fans and Induced Draft Fans vane control drive air failure lock system" indicating light' circuits were inspected and were not working. The circuit could not be completely verified due to the lack of scheduled time available. Since this does not affect the visible emissions performance, it was scheduled for future extended outages.

PUERTO RICO ELECTRIC POWER AUTHORITY PALO SECO STEAM POWER PLANT DIVISION

INSPECTION & ANALYSIS AND HARDWARE UPGRADE PROGRAMS SUMMARY REPORT

FOR THE PALO SECO STEAM POWER PLANT DIVISION - UNIT #3 Toa Baja, Puerto Rico



Prepared for

U.S. Environmental Protection Agency April 1999

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I. INSPECTION & ANALYSIS AND HARDWARE UPGRADE PROGRAMS IMPLEMENTATION AND SUMMARY REPORT SUBMISSION CERTIFICATIONS

I certify, to the best of my knowledge and belief, that the information contained in or accompanying this submission was prepared under my supervision by qualified personnel who properly gathered and evaluated the information contained in the submission. I further certify that I have reviewed the information submitted and, to the best of my knowledge and belief, it is true, accurate, and complete.

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Josué A. Colón Ortiz

Palo Seco Steam Power Plant Division Manager Puerto Rico Electric Power Authority

In my capacity as the Electrical System Director of PREPA, I hereby certify, under penalty of law, that the information contained in or accompanying this submission was prepared by qualified personnel who properly gathered and evaluated the information submitted. I further certify, based on a reasonable inquiry of the person or persons responsible for gathering such information, that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

To the best of my knowledge and belief, the Inspection and Analysis Program has been completed in accordance with Section V of the Consent Decree.

To the best of my knowledge and belief, the Hardware Upgrade Program has been completed in accordance with the requirements of Section V of the Consent Decree.

Roberto A. Volckers Esteves Electrical System Director Puerto Rico Electric Power Authority

II. INSPECTION & ANALYSIS AND HARDWARE UPGRADE PROGRAMS INTRODUCTION

This summary report is submitted to the Environmental Protection Agency (EPA) by the Puerto Rico Electric Power Authority (PREPA) - Palo Seco Steam Power Plant Division, in order to comply with the requirements established in Section V of the Consent Decree, under both the Inspection and Analysis Program and the Hardware Upgrade Program.

A list of the equipment components that were inspected and analyzed prior and during the Palo Seco Steam Power Plant Division - Unit 3 environmental outage in 1995 is included and detailed. These components were determined to be repaired, replaced or installed during the outage following the results or conditions found on each inspection. This report includes the deficiencies discovered and a synopsis of the steps necessary to correct such deficiencies.

A list of the hardware components that were installed, replaced or repaired during the environmental outage is included and detailed. These components were either repaired, replaced or installed due to the Inspection and Analysis Program activities of the Section V of the Consent Decree between EPA and PREPA. This report details the activities performed and the section or contractor responsible for each activity. Also included are those hardware components determined to be deficient but were not installed, repaired, and/or replaced and the reason thereof.

The Hardware Upgrade Program summary report was consolidated with the Inspection and Analysis Program summary report, since both programs were implemented at the same time for generating Unit#3 following the requirements under Sections B.3.c.(4) and B.4.d.(4) of the Consent Decree's Air Compliance Attachment. The Inspection & Analysis and Hardware Upgrade Programs were completed on October 14, 1995.

III. HARDWARE COMPONENT INSTALLED, REPAIRED, AND/OR REPLACED

Based upon the analysis of the inspection activities pursuant the Inspection and Analysis Program on Palo Seco Steam Power Plant Division - Unit #3 hardware components, the following equipment was determined to be either repaired, installed or replaced in order to ensure the generating unit's environmental compliance with Rules 403 and 404 of the PRRCAP. Also, a description of the deficiency discovered and the steps taken to correct such deficiency are included.

Fuel Oil Burners:

- 1. Some auxiliary air and fuel air nozzle tips showed wear. All of them were replaced as required, by the Boiler Maintenance Section.
- 2. Air leaks through the windbox and corners burners were found. The Boiler Maintenance Section sealed the leaks by patching and welding.
- 3. Some vane diffusers showed signs of wear. The Boiler Maintenance Section proceeded to replace all vane diffusers.
- 4. Most fuel oil guns showed damage during the inspection. All fuel oil burners were repaired and left with a measurement of 85 1/4 inches by the Mechanical Maintenance Section.

Fuel Oil Pumps:

1. As a preventive measure, the Pneumatic Section calibrated the pressure controllers of both Fuel Oil Pumps (3-1 & 3-2).

Fuel Oil Heater:

1. The heater had two elements isolated due to damaged relief valves. Those relief valves were replaced with new ones. Also, as a preventive measure, the packings of all steam inlet and outlet valves of the elements were replaced. All work was performed by the Mechanical Maintenance Section.

Viscometer:

1. The packing of the viscometer needed to be replaced. The Pneumatics Maintenance Section replaced it with a new one, and the piston operation was checked in good condition.

Burner Management System:

- 1. Forney Burner Control As a preventive measure, the power supplies were cleaned and the cooling fans' ball bearings were replaced. All I/O cards were also cleaned. All work was performed by the Electronics Maintenance Section.
- 2. Flame Scanners Three (3) scanners showed damage and needed to be replaced. New scanners were used to replace them and were verified for proper operation by the Electronics Maintenance Section.
- 3. Ignitors Two spark plugs were found damaged. The Electronics Maintenance Section replaced them with new ones.

Fuel Oil Burner Isolation Valves:

- 1. The trifecta valve 1B had a steam leak. The Pneumatics Maintenance Section repaired it by installing a new packing.
- 2. Burner 1D was not operating properly when the generating unit was set at low loads. The internal parts of the trifecta were inspected, and the supply headers (steam and fuel oil) were purged. Also the actuator of the trifecta was repaired. All work was performed by the Pneumatics Maintenance Section.

3. A check valve was installed in the air supply line of every trifecta valve to keep the valve in his last position in case of air failure. This work was recommended and performed by the Pneumatics Maintenance Section.

Duct and Furnace Casing Integrity:

- 1. Some air leaks were found in the windbox ducts, and were all repaired by patching and welding. The work was performed by the Boiler Maintenance Section.
- 2. Some gas leaks were found in the air and gas ducts at the hopper and expansion joints areas below the Air Preheater devices, and were sealed by patching and welding. The work was performed by the Boiler Maintenance Section.

Windbox Registers:

1. The 32 positioners were inspected, and some of them were replaced due to unacceptable test results. Every positioner was calibrated by the Pneumatics Maintenance Section.

Tilting Mechanism:

1. The actuators of the burner tilts were inspected, and two of them were repaired by the Pneumatics Maintenance Section.

Air Preheaters:

1. As a preventive measure, the Pneumatics Maintenance Section cleaned and purged all the draft connections for both air preheaters, including the sensing lines.

Fans:

1. Gas Recirculation Fan - the shut-off damper was repaired as per Combustion Engineering recommendation. It was set at 50% operational and 50% closed. This work was performed by the Boiler Maintenance Section.

2. Induced Draft Fans - The electropneumatic positioners for the control drives of the control vanes were replaced for an I/P and a pneumatic positioner in every control drive. The job was performed by both the Electronics and Pneumatics Maintenance Sections.

Steam Coils:

- 1. Steam Coil 3-1 The steam regulator isolation valve was not closing completely. It was replaced with a new one by the Mechanical Maintenance Section.
- 2. Steam Coil 3-1 A steam leak was found in the upper element due to a worn gasket. The gasket was replaced with a new one. The leak was corrected by the Mechanical Maintenance Section.
- 3. A leak was found on the root valve of the main supply steam header to the Steam Coils. A new packing was installed by the Mechanical Maintenance Section to correct the leak.

Ductwork:

- 1. Some air leaks were found in the windbox ducts. All were repaired by patching and welding the damaged areas by the Boiler Maintenance Section.
- 2. Some leaks were found in the gas and air ducts at the hopper and expansion joint areas, below the air preheaters. All were repaired by patching and welding the damaged areas by the Boiler Maintenance Section.

Instrumentation Components:

1. Four (4) additional oxygen cells were recommended to be installed in the discharge gas duct (two on each duct) by the Electronics Maintenance Section for additional control purposes.

The installation was performed, and the cells calibrated.

Sootblowing System:

- 1. A new retractable sootblower 6L was installed for testing purposes. It was different from the Copes Vulcan sootblowers because it includes a "rack and pinion system" instead of chains to move the travelling carriage. All mechanical and electrical installation was performed by the Electrical and Boiler Maintenance Sections.
- 2. All magnetic starters, push-buttons, timers, relays, and limit switches were checked and lubricated. Some of these electrical elements were replaced due to failures during testing, including several motors and overload protections. A few control boxes were also replaced. All work was performed by the Electrical Maintenance Section.
- 3. Thermal Drains The temperature controllers were inspected and one was found damaged. It was replaced with a new one, and the three control valves were calibrated by the Pneumatics Maintenance Section.

Boiler Components Washing:

- 1. The boiler sections and components were determined to be washed and cleaned during the outage to improve the boiler's thermal efficiency and remove old soot particles that affect the opacity. The following works were performed by independent contractors J.R. and Induchem.
 - a) All the slag from the furnace was removed and disposed out of the boiler.
 - b) Economizer hoppers were water-washed.
 - c) Gas and air ducts were water-washed.
 - d) The stacks were water-washed.
 - e) The reheater and superheater elements were hydroblasted.

Pressure Parts:

- 1. An initial hydrotest was performed to the boiler on October,10 1995 finding one pin hole failure at tube #2 (from east to west side) in front waterwall five feet on top of corner C. It was repaired by the Boiler Maintenance Section.
- 2. A second hydrotest to 2,000 psig was performed on the same day, and no leaks were found.

Feedwater Heaters:

1. The non-return valve of Feedwater Heater #5 was not working properly. It was repaired by the Pneumatics Maintenance Section.

Waterwall Tubes Integrity:

1. As a standard operation procedure, a hydrostatic test was performed in the boiler to check for any tube leaks after the repairs were completed, but no leaks were found as previously mentioned.

IV. HARDWARE UPGRADE PROGRAM - WORKS NOT PERFORMED

The following item was determined to be installed, repaired or replaced in the Inspection and Analysis Program of the EPA-PREPA Consent Decree, but for several reasons, it could not be accomplished in the Unit #3 Environmental Outage of 1995. The item and the reason is described as follows:

1. The Gas Recirculation Fan automatic damper control was not operating. Additional electrical and pneumatic installations were needed. Since the dampers can be manually operated and does not affect the visible emissions performance, it was scheduled for future planned outages.

PUERTO RICO ELECTRIC POWER AUTHORITY PALO SECO STEAM POWER PLANT DIVISION

INSPECTION & ANALYSIS AND HARDWARE UPGRADE PROGRAMS SUMMARY REPORT

FOR THE PALO SECO STEAM POWER PLANT DIVISION - UNIT #4 Toa Baja, Puerto Rico



Prepared for

U.S. Environmental Protection Agency April 1999

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I. INSPECTION & ANALYSIS AND HARDWARE UPGRADE PROGRAMS IMPLEMENTATION AND SUMMARY REPORT SUBMISSION CERTIFICATIONS

I certify, to the best of my knowledge and belief, that the information contained in or accompanying this submission was prepared under my supervision by qualified personnel who properly gathered and evaluated the information contained in the submission. I further certify that I have reviewed the information submitted and, to the best of my knowledge and belief, it is true, accurate, and complete.

MP/5/10/99

Josué A. Colón Ortiz
Palo Seco Steam Power Plant Division Manager
Puerto Rico Electric Power Authority

In my capacity as the Electrical System Director of PREPA, I hereby certify, under penalty of law, that the information contained in or accompanying this submission was prepared by qualified personnel who properly gathered and evaluated the information submitted. I further certify, based on a reasonable inquiry of the person or persons responsible for gathering such information, that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

To the best of my knowledge and belief, the Inspection and Analysis Program has been completed in accordance with Section V of the Consent Decree.

To the best of my knowledge and belief, the Hardware Upgrade Program has been completed in accordance with the requirements of Section V of the Consent Decree.

Roberto A. Volckers Esteves
Electrical System Director
Puerto Rico Electric Power Authority

II. INSPECTION & ANALYSIS AND HARDWARE UPGRADE PROGRAMS INTRODUCTION

This summary report is submitted to the Environmental Protection Agency (EPA) by the Puerto Rico Electric Power Authority (PREPA) - Palo Seco Steam Power Plant Division, in order to comply with the requirements established in Section V of the Consent Decree, under both the Inspection and Analysis Program and the Hardware Upgrade Program.

A list of the equipment components that were inspected and analyzed prior and during the Palo Seco Steam Power Plant Division - Unit 4 environmental outage in 1995 is included and detailed. These components were determined to be repaired, replaced or installed during the outage following the results or conditions found on each inspection. This report includes the deficiencies discovered and a synopsis of the steps necessary to correct such deficiencies.

A list of the hardware components that were installed, replaced or repaired during the environmental outage is included and detailed. These components were either repaired, replaced or installed due to the Inspection and Analysis Program activities of the Section V of the Consent Decree between EPA and PREPA. This report details the activities performed and the section or contractor responsible for each activity. Also included are those hardware components determined to be deficient but were not installed, repaired, and/or replaced and the reason thereof.

The Hardware Upgrade Program summary report was consolidated with the Inspection and Analysis Program summary report, since both programs were implemented at the same time for generating Unit#4 following the requirements under Sections B.3.c.(4) and B.4.d.(4) of the Consent Decree's Air Compliance Attachment. The Inspection & Analysis and Hardware Upgrade Programs were completed on August 25, 1995.

III. HARDWARE COMPONENT INSTALLED, REPAIRED, AND/OR REPLACED

Based upon the analysis of the inspection activities pursuant the Inspection and Analysis Program on Palo Seco Steam Power Plant Division - Unit #4 hardware components, the following equipment was determined to be either repaired, installed or replaced in order to ensure the generating unit's environmental compliance with Rules 403 and 404 of the PRRCAP. Also, a description of the deficiency discovered and the steps taken to correct such deficiency are included.

Fuel Oil Burners:

- 1. Some auxiliary air and fuel air nozzle tips showed wear. All of them were replaced as required, by the Boiler Maintenance Section.
- 2. Air leaks through the windbox and corners burners were found. The Boiler Maintenance Section sealed the leaks by patching and welding.
- 3. Most oil guns showed signs of wear and tear during the inspection. The Mechanical Maintenance Section prepared sixteen (16) new burners. They also replaced two (2) gun clamps that were damaged.

Fuel Oil Pumps:

- 1. Both Fuel Oil Pumps (4-1 & 4-2) showed the need of major overhaul during operation. Both pumps were totally repaired. New mechanical seals and bearings were installed. All work was performed by the Mechanical Maintenance Section.
- 2. Fuel Oil Pump 4-1 The motor was disconnected, removed and disassembled. The stator and rotor were steam pressure cleaned. The motor was assembled back and connected by the Electrical Maintenance Section.

Fuel Oil Heater:

1. The temperature control valve was not working properly. The valve positioner of the temperature control valve was repaired and calibrated by the Pneumatics Maintenance Section.

Viscometer:

1. The packing assembly of the viscometer needed to be replaced. The Pneumatic Section replaced it with a new one and the air filter and the oil lubricator for the piston were inspected in good conditions.

Burner Management System:

- 1. Forney Burner Control Some I/O cards and Master Communication cards were found to be defective. The Electronics Maintenance Section replaced all defective cards by new ones and also cleaned the power supplies.
- 2. Some scanners were not working properly during testing, and were replaced by new ones by the Electronics Maintenance Section.
- 3. Some anphenol connectors were found to be damaged during the inspection. The damaged connectors were replaced by new ones by the Electronics Maintenance Section.

Fuel Oil Burner Isolation Valves:

1. Four (4) solenoids valves in the steam pneumatic valves were found to be damaged. The Pneumatics Maintenance Section replaced the solenoids valves to correct the deficiency.

Atomizing Steam Controls:

1. The valve positioner was not operating properly. It was repaired and calibrated by the Pneumatics Maintenance Section.

Combustion Control System:

- 1. Ignitors The ignitors were cleaned and inspected. Some had spark plugs with failures, which were replaced by new ones. Each ignitor was installed and verified by the Electronics Maintenance Section.
- 2. The internal parts of the main fuel oil flow control valve was found damaged during the inspection. They were replaced by the Pneumatics Maintenance Section.

Duct and Furnace Casing Integrity:

- 1. Some air leaks were found in the windbox ducts, and were all repaired by patching and welding the areas. The work was performed by the Boiler Maintenance Section.
- 2. Some air leaks were found in the air and gas ducts at the hopper and expansion joint areas below the air preheater devices and were all repaired by patching and welding the areas. The work was performed by the Boiler Maintenance Section.

Tilting Mechanism:

- 1. The burner tilt mechanism was tested and the linkage of the air auxiliary bucket 1A needed to be replaced. It was performed by the Boiler Maintenance Section.
- 2. The cups of the actuators of the burner tilts were checked. The Pneumatics Maintenance Section decided to replace them for cups made with new material in all four corners of the boiler. The instrumentation lines were replaced in all four corners. The four actuators were calibrated including their positioners. The positioner of the "C" corner was repaired.

Air Preheaters:

- 1. All radial seals were at the cold end for both air preheaters were replaced and calibrated as required, due to the damage shown, by the Boiler Maintenace Section.
- 2. All cold and hot end baskets were replaced for both air preheaters, due to the corrosion shown during the inspection, by the Boiler Maintenance Section.
- 3. The auxiliary air turbine of the A.H. 4-2 was not working properly. The Boiler Maintenace Section replaced it with a new one and also installed a new over running clutch.
- 4. An air leak was found through the rotor drive assembly at both air preheaters. It was corrected by patching and welding by the Boiler Maintenance Section.

Steam Coils:

- 1. Steam coil 4-1 panels needed to be cleaned due to dirty deposits in the fins. The steam radiators were cleaned and water washed by the Mechanical Maintenance Section.
- 2. As a preventive measure, the internal parts of both steam control valves were replaced and the positioners and actuators were calibrated by the Pneumatics Maintenance Section.
- 3. Steam Coil 4-2 had defective condensate steam traps. They were replaced by new ones by the Mechanical Maintenance Section.

Ductwork:

- 1. Some air leaks were found in the windbox ducts. All were repaired by patching and welding by the Boiler Maintenance Section.
- 2. Some gas leaks were found in the gas ducts at the economizer area. All were repaired by patching and welding by the Boiler Maintenance Section.

3. Some leaks were found in the gas and air ducts at the hopper and expansion joint areas below the air preheaters. All were repaired by patching and welding by the Boiler Maintenance Section.

<u>Instrumentation Components:</u>

1. Two (2) additional oxygen cells were recommended to be installed in the discharge gas duct (one on each duct) by the Electronics Maintenance Section for additional control purposes. The installation was performed, and the cells calibrated.

Sootblowing System:

- 1. Most sootblowers in this generating unit were in need of major repairs due to excessive wear. New retractable sootblowers with new housing were installed as well as their related electrical components by the Electrical and Boiler Maintenance Sections.
- 2. As a preventive measure, the internal parts of the steam control valve as well as the diaphragm of the flow switch were replaced by the Pneumatics Maintenance Section.

Boiler Components Washing:

- 1. The boiler sections and components were determined to be washed and cleaned during the outage to improve the boiler's thermal efficiency and remove soot particles that affect the opacity. The following works were performed by independent contractors J.R. and Induchem.
 - a) All the slag from the furnace was removed.
 - b) Economizer hoppers were water-washed.
 - c) Air preheaters gas and air hoppers were water-washed.
 - d) Gas and air ducts were water-washed.
 - e) The stack was water-washed.
 - f) The reheater and superheater elements were hydroblasted.

Pressure Parts:

1. Twelve (12) tubes (10'- long) were replaced from elevation 106 to 112 to the west side of the water wall by the Boiler Maintenance Section.

- 2. Fifty four (54) tubes were repaired by welding in elevation 20' 0 in the west side of the water wall by the Boiler Maintenance Section.
- 3. Fourteen (14) waterwall tubes were repaired by welding at elevation 20' 0 in the east side by the Boiler Maintenance Section.
- 4. Chemical cleaning of the boiler water side internals was performed by the Hydrochem company.
- 5. An initial air leak test was performed to the boiler on August 9, 1995; finding one crack failure at tube 33 from east side in the rear water wall near a nipple to the mud drum. Also, one pin-hole failure was found at tube 5 from north side between 8'- 3 to 44'- 8 elevation of east waterwall. They were repaired by the Boiler Maintenance Section.
- 6. The first hydrotest to 1,500 psig was performed on August 11, 1995 finding leaks through the following areas:
 - * By tube 15 from north at the west side of the waterwall very near the furnace floor.
 - * By waterwall tube elevation 116' 10" in HTSH manhole area of the west side.
 - * By rear waterwall tube elevation 85' near corner A.
 - * By rear waterwall tube elevation 85' near corner B.
 - * By tubes 28 and 29 from west at elevation 141' 6"of front waterwall facing the outlet reheat header.

All were repaired by welding by the Boiler Maintenance Section.

- 7. A second hydrotest to 1,500 psig was performed on August 13, 1995 finding leaks through the following areas:
 - * By front waterwall tube corner D, under the buckstay of elevation 30'.- 11".
 - * By tube 2 from west side of the front waterwall tube corner C, over the buckstay of elevation 30' 11".
 - * Pin-hole by tube 2 from corner A, at west waterwall near of burner 1A.
 - * By tube 28 from east at frontal waterwall elevation 141' 6" facing the reheat header.
 - * By tubes 23 and 24 from east at frontal waterwall elevation 141'- 6"facing the outlet reheat header.
 - * By tube 38 from west at frontal waterwall elevation 107' 0" facing the vestibule area.

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- 8. A third hydrotest to 1,000 psig was performed on August 16, 1995 finding leaks through the following areas:
 - * Pin-hole by east waterwall tube elevation 77' 6" over the observation port area.
 - * Circumferential crack by field weld of tube 5 from west of the superheater element to entrance to outlet header.
 - * By tube attachment weld of the buckstay elevation 30' 11" at the center of the front waterwall.
 - * By tube attachment weld at the west side of the GRF discharge duct at the rear waterwall.
 - * Circumferential crack by field weld of tube 3 from corner A at the Igniter 1A area at the rear waterwall. It was replaced by new nipple tube. Also tubes 2 and 3 were repaired with welding.
- 9. A fourth hydrotest to 2,000 psig was performed on August 16, 1995 finding a leak in the following area:
 - * By tube 4 from corner A at rear waterwall near Igniter 1A area. Tubes 2, 3 and 4 were repaired with welding.
- 10. A fifth hydrotest to 2,000 psig was performed on August 18, 1995 finding leaks through the following areas:
 - * By tube 17 from furnace man-hole toward corner D at weat waterwall near to the bottom of the furnace.
 - * By tube 3 from corner B at east waterwall near the oil diffuser of bucket 1B.
 - * By tube 6 from corner A tube attachment weld of buckstay elevation 38' 3".
 - * By tube 28 from west at front waterwall elevation 141' 6".
- 11. A sixth hydrotest to 2,000 psig was performed on August 19, 1995 finding leaks through the following areas:
 - * One spray by tube 2 from corner B at rear waterwall over the buckstay elevation 44'- 8".
 - * Pin-hole by tube 7 from corner A at rear waterwall between 31'-9" to 38'-3" elevations.
 - * By tube 2 from east at rear waterwall near to bend tube toward the mud drum.

- 12. A seventh hydrotest to 2,000 psig was performed on August 20, 1995 finding leaks through the following areas:
 - * One small crack by tube 1 from east at rear waterwall to bend tube toward the mud drum (below refractory). It was replaced with new 3' long nipple.

* Pin-hole by tube 4 from corner A at west waterwall near the oil diffuser bucket 1A area.

- 13. An eighth hydrotest to 2,000 psig was performed on August 20, 1995 finding leaks through the following areas:
 - * By tube 32 from west at front waterwall near to bend tube toward the mud drum (below refractory).
 - * By tube 5 from furnace man-hole toward corner C (below refractory) at east waterwall at joint weld near of side header.
 - * By tube 3 and 4 from corner A at west waterwall near the oil diffuser bucket 1A area.
- 14. One air test and the ninth hydrotest to 2,000 psig was performed on August 22, 1995 finding leaks through the following areas:
 - * By tube 2 from west at frontal waterwall under refractory at bent toward the mud drum.
 - * By tube 4 from furnace man-hole toward corner C at east waterwall (below refractory) at joint weld near of side header.
- 15. A tenth hydrotest to 2,000 psig was performed on August 23, 1995 and no leaks were found.

IV. HARDWARE UPGRADE PROGRAM - WORKS NOT PERFORMED

The following items were determined to be installed, repaired or replaced in the Inspection and Analysis Program of the EPA-PREPA Consent Decree, but for several reasons, they could not be accomplished in the Unit #4 Environmental Outage of 1995. The items and the reasons are described as follows:

- 1. Gas Recirculation Fan A new fan wheel, new bearings and a new turning gear system were installed. The shut-off dampers were recommended to be replaced, but this activity could not be performed due to the lack of scheduled time available. This work will be performed during the next extended outages.
- 2. Both High Pressure Feedwater Heaters were determined to be beyond repair and needed to be replaced by new ones. This activity could not be performed due to the extended amount of time needed by the manufacturer to build and supply the new heaters with the appropriate specifications needed for this unit. This work will be performed during the next extended outage, after receipt of the new heaters to be installed.
- 3. The boiler water wall tubes areas that failed during the hydrotests were determined to be replaced. This activity could not be performed due to the extended amount of time needed by the manufacturer to supply the new tubes and materials needed. This work will be performed during the next extended outage, after receipt of the new tubes to be installed.

COSTA SUR

INSPECTION, ANALYSIS AND HARDWARE UPGRADE PROGRAM SUMMARY REPORT

<u>PUERTO RICO ELECTRIC POWER AUTHORITY</u> <u>SOUTH COAST STEAM PLANT</u>

Inspection, Analysis and Hardware Upgrade Programs Summary Report

Certification by South Coast Power Plant Manager

I certify, to the best of my knowledge and belief, that the information contained in or accompanying this submission was prepared under my supervision by qualified personnel who properly gathered and evaluated the information contained in the submission. I further certify that I have reviewed the information submitted and, to the best of my knowledge and belief, it is true, accurate, and complete.

Raúl Rosado

South Coast Power Plant Manager

Certification by PREPA's Electrical System Director

In my capacity as the Electrical System Director of PREPA, I certify, under penalty of law, that the information contained in or accompanying this submission was prepared by qualified personnel who properly gathered and evaluated the information submitted. I further certify, based on a reasonable inquiry, on the person or persons responsible for gathering such information, that the information submitted is, to the best of my knowledge and belief, true, accurate and complete.

To the best of my knowledge and belief, the Inspection and Analysis Program has been completed in accordance with Section V of the Consent Decree.

To the best of my knowledge and belief, the Hardware Upgrade Program has been completed in accordance with the requirements of Section V of the Consent Decree.

Roberto A. Volckers

Electical System Director

INSPECTION AND ANALYSIS AND HARDWARE UPGRADE PROGRAMS SUMMARY REPORT OF SOUTH COAST STEAM PLANT

In accordance with the inspection and analysis program each generating unit was inspected to determine its ability to comply with the visible emisions standards. Not all the documentation required by the program is available. However, some observations checklist (PM inspections) and logs with notes of the inspection activities were available.

The hardware upgrade program summary report will be consolidated with the inspection and analysis program summary report. The Environmental Outage Report prepared for the inspection and analysis program for each generating unit, lists each hardware component installed, repaired, and/or replaced during the outage. It also makes notes of those hardware components determined to be deficient during the inspection and the correction to such deficiency.

Following is a description of those hardware components found to be deficient during the inspection and a synopsis of the steps taken to correct such deficiency for each equipment.

ENVIRONMENTAL OUTAGE REPORT (MARCH TO MAY 1995)

- 1. The low temperature superheater upper bank replaced by Combustion Engineering.
- 2. Bunker C burners: Repaires were made in the auxiliary air nozzles in all corners of burners. All difussers and hoses were replaced. Guns in all corners were replaced.
- 3. Air Preheaters: Cold baskets were replaced. Cold side radial seals, circumferential seals, cold side circumferential seals support angle and cold side post seals were replaced. Worn steam sootblower nozzles were replaced.
- 4. At the following areas the insulation were in bad condition and were replaced: IDF's discharge gas ducts, steam line at BC heater, BC regulator valve and at three hangers of the main steam line.
- 5. Installed two additional oxygen analyzers in the economizer outlet ducts. This was a recomendation of Radian Corporation.
- 6. Cracks were repaired in the economizer gas hopper expansion joints.
- 7. Forced Draft Fan: The outboard pedestal bolts were found loose and were adjusted. The outboard vane mechanism seal ring and the outboard control vane mechanism linkage were replaced. Also the outboard operating ring seal was replaced.
- 8. Bunker C Pumps: Mechanical seals installed. In both pumps the recirculation valve internals were replaced.
- 9. Feed Water Heaters No.6 and No.9: New provisions for thermowells, new pipes for visual levels and hydrasteps levels installed.

- 10. Fuel Regulating Valve: Was repaired and calibrated.
- 11. Boiler Master Station: Was repaired and calibrated.
- 12.Super Heater Spray Valve: Was repaired, internals were replaced and calibrated.
- 13. Sootblowers: The steam regulator valve was repaired and calibrated. The blowing steam relief valve was recalibrated.
- 14. The boiler feed water regulator internals were replaced and calibrated.
- 15. Flash Tanks: The control level mechanisms were replaced.
- 16. The thermocouples of the super heater tubes were replaced.

UNIT NO. 2 ENVIRONMENTAL OUTAGE REPORT (SEPTIEMBRE TO JANUARY 1996)

- 1. Air Preheaters: All radial and circumferential seals, all rotor post seals, the covers and gratings of cold baskets and all the baskets were replaced. Both washing devices were replaced. In AH 2-2 the waching devices base was replaced. The guide bearing cooling system line was replaced. The structural beams, the stay plate welds and the hot side stiffener welds were reinforced.
- 2. The south side steam drum vent valve was replaced.
- 3. Installed two additional oxygen analyzers in the economizer outlet ducts. This was a recomendation of Radian Corporation.
- 4. The AH's gas hoppers, the gas duct upper side toward the stack, windbox air duct (upper side) and the gas duct upper side and front wall below AH 2-1 were patch welded.
- 5. Refractory was installed in the economizer hopper.
- 6. Economizer gas outlet ducts expansion joints G-1 was repaired and stact gas inlet expansion joint G-5 was replaced.
- 7. Burner connecting ducts expansion joints at corner A to D were replaced.
- 8. For the next outage, the replacement of the following hangers are recommended: Hanger No. H-11, H-12, H-13, H-14 and H-16 on the main steam line.
- 9. Burners :In all burner corners, the air buckets and oil fuel buckets were replaced. The ignitor nozzles were replaced. Some steam and fuel hoses were found deteriorated and were replaced. All fuel oil guns were replaced and calibrated. All

burner crothes were repaired with plastic refractory to avoid future damage. Sections of the propane line were replaced.

10.In the LTSH upper bank, all supports and spacers were

replaced.

11. Corroded tubes were replaced at burner corners A and B. Ten tube-curves were replaced in the economizer elements.

12.In the Forzced Draft Fan, new housing and vanes were installed.

- 13.In the Induced Draft Fan the fan housing was repaired by patching walls, roof and deck. Several ball pins of the control vanes operation ring were replaced.
- 14. Viscometer: Installed in this outage.
- 15. Igniter Booster Fan: The outer casing repaired.

16. Feed Water Heater No. 14: Tube leak repaired.

- 17. Replaced the internals of the oil control valve and the steam pressure control valve in the BC heater.
- 18. Windbox Tilting Mechanism: The four control drivers were disassembled. New pistons and seals were installed.
- 19.FDF and IDF: New control driver seals were installed.
- 20. Sootblowers Control Valve: Internals were replaced.
- 21. Feed Water Heaters: The safety valves were sent to a shop for overhaul. New seals installed in the test valves. The cylinders of the NRV were honed and new seals installed.
- 22. Burner Management System Cabinet: A defective 6 volt, power supply was replaced.
- 23.Oil Fow Meter: New micromotion flow meter was installed.
- 24. Twelve thermocouples were added at the LTSH tubes.
- 25.IDF and FDF motors: Were cleaned, oven treated by Cortés Industrial Organization. This action was taken because of degradation of the coil insulation. Intaken air filter installed to eliminated this problem.

ENVIRONMENTAL OUTAGE REPORT (APRIL 1995)

- 1. Cold end radial and post seals in Air Preheater 3-2 were found corroded and damaged, they were replaced and calibrated.
- 2. Worn steam blower nozzle was replaced in Air Preheater 3-2.
- 3. Cracks were repaired in both expansion joints G-2 by welding.
- 4. Pactching was made to the door frame of IDF 3-1 outlet duct.
- 5. Corroded door above gas duct 3-2 to the chimney was eliminated.
- 6. Patching was made to both economizer gas outlet hoppers.
- 7. Burners: The spinner vanes (2A, 2C and 3C) blades were found thinned and were replaced. The length of the guns were measured and were found out of tolerance. Length of the guns was corrected.
- 8. Induced Draft Fan 3-1: A hole in the suction (motor side) toward the outside wall was sealed.
- 9. Induced Draft Fan 3-2: The base casing outboard was repaired. The control station was found to be erratic, so it was repaired.
- 10. Viscometer: Was installed in this outage.
- 11.Steam Coils: In bad conditions. New steam coils were installed in August 1996. Also, modified the steam piping of the traps for more reliability and efficiency.
- 12. Burner Tilt Mechanism: New pistons and seals were installed in the tilts. The cylinders were honed.
- 13. The BC oil control station was repaired and calibrated.

- 14.A new air flow meter was installed and a new air flow curve was plotted.
- 15. The blowing steam control valve was disassembled, internals were replaced and calibrated.
- 16. The Bunker C pump 3-1 recirculating valve and BC oil regulator valve were repaired.
- 17. Feed Water Heaters: The Non-return valves were repaired.
- 18. New spark plugs installed in the igniters.
- 19.Installed a new sootblower panel with thermodrain control valves.
- 20. Oxygen Analyzers: Oxygen analyzer 3-1 in bad conditions, replaced with a new analyzer. Installed two additional oxygen analyzers in the economizer outlet ducts in August 1996. This was a recomendation of Radian Corporation.
- 21. Feed Water Heaters: New high pressure feed water heaters no.7 and no.11 were puschased and installed in the outage of August 1996.

ENVIRONMENTAL OUTAGE REPORT (JULY TO AUGUST 1995)

- 1. Burners: It was found that tips from oil fuel buckets and the upper section from the ring's tip of fuel buckets were burned out. The ring's upper section were fabricated with inconel steel material and replaced. The burned out areas of the tips were replaced. On corner elevation 1A and 2D two burned out difusser were replaced. Insulation repaired in burner area A, C and D.
- In the AH 4-1 cold side radial inner seals were replaced for new ones. A few broken circumferential hot side seals were replaced.
- 3. Top side of duct between gas hopper and AH 4-1 patches were welded and at air duct on top of air heater, access door was repaired. Cold baskets starting to corrode, replaced in the outage of September 1996.
- 4. Oxygen Analyzers: Installed two additional oxygen analyzers in the economizer outlet ducts in May 1996. This was a recomendation of Radian Corporation.
- 5. Cracks were found in gas side expansion joints G-1 and G-4. Repaired with welded patches.
- 6. Induced Draft Fan 4-1: The outlet seal housing of the inlet boxes were repaired. The center drain of the housing was repaired.
- 7. Induced Draft Fan 4-2: The outlet seal housing of the inlet boxes were repaired. Erosion was detected in some areas of the wheel. The wheel should be replaced in less than three years due to erosion.

- 8. Steam Coils: New steam coil panels were installed in the outage of September 1996.
- 9. Bunker C Heater: Two elements were repaired.
- 10. Viscometer: installed in this outage.
- 11. Fuel Handling System: The BC pump 4-1 recirculating valve and the BC regulating valve were repaired. All BC heater relief valves were repaired.
- 12.Burner Tilt Mechanism: All four cylinders were disassembled, new pistons with better heat resistance were installed.
- 13. Blowing Steam Control Valve: The internals were replaced.
- 14. Feed Water Heaters: The Non-return valve cylinders were repaired. One safety valve was fully repaired.
- 15. Burner Management System: A ground fault was eliminated.

ENVIRONMENTAL OUTAGE REPORT (January to May 1995)

- 1. Burners: In all corners the fuel oil nozzle buckets, the auxiliary air nozzle buckets were replaced. Turning vanes and burner covers were installed. All the advance and retract mechanism were installed. Ignitor nozzles in all corners were replaced.
- 2. Gas Recirculating Fan: A new discharge damper was installed. The discharge duct was repaired. Some expansion joints were repaired or replaced. New clutch installed, inlet dampers and a ball bearing replaced. The motor stator of the Fan replaced.
- 3. Observation Port : All were filled with refractory to improve its durability.
- 4. The hopper drain at both stacks were repaired. Gas ducts hopper drain were repaired.
- 5. Air Duct 5-2: A few cracks were repaired on the upper side. Some expansion joints were repaired or replaced.
- 6. Gas Ducts: On 5-1 and 5-2, both AH hoppers were fabricated and welded. On gas duct 5-2 some cracks were repaired at discharge side of IDF 5-2. Some expansion joints were repaired or replaced.
- 7. Insulation Work: Repaired in both stacks, AH hoppers and GRF duct.
- 8. Air Preheaters: All radial seals, by pass seals, rotor post seals, axial seals, support angleaxial seals, sector plates at cold side, all static seal sector plates, all diaphragms, end plates, stay plates, hot basket supports, all baskets and the washing device

- were replaced. The rack and pinion, and pin rack in the rotor drive were replaced in both AH's.
- 9. Boiler Circulating Water Pump 5-2: Was replaced.
- 10. Forced Draft Fan 5-1: New bearings were istalled on the motor.
- 11. Forced Draft Fan 5-2: The atmosferic seals were replaced.
- 12. Induced Draft Fan 5-1: The outboard bearing of the motor, the atmosferic seals at the inlet boxes, all the vane tubing and arm assemblies, the vane rod, water drain and the vane taps were replaced. A crack in the housing common sheet of the south inlet box was repaired. The rotor of the motor was found with cracks in the short circuit ring and repaired.
- 13.Induced Draft Fan 5-2: The bearings and the seals of the motor, the inboard bearing of the fan, all the vane tubing and arm assemblies, the vane rod, the lubrication ring of the inboard bearing of the motor were replaced. The rotor of the motor was found with cracks in the short circuit ring and repaired. The stiffeners at the inlet boxes were repaired.
- 14. Viscometer: Installed in this outage.
- 15.Bunker C Heater: Installed new traps and cleaned the internal sections of the heater elements. Three relief valves were replaced. New elements were purchased, arrived in September 1996 and will be installed in the next outage.
- 16.Bucker C Pumps: Installed mechanical seals to prevent oil leaks.
- 17. Steam Coils: Installed new panels and piping from the steam coils to the condenser. Installed new steam traps. The control valves internal were replaced.
- 18. Pneumatic Valves and Trip Valve of Propane: Internals were replaced.
- 19. Sootblowers: Main regulator valve disassembled and internals were replaced. New thermodrain valves installed.
- 20.Bunker C Regulating Valves: Both control valves were repaired.

- 21. Feed Water Heaters: Heaters No.6 and No.7 were replaced in the outage of February 1996.
- 22.Installed new equipment to read temperature in the furnance.

ENVIRONMENTAL OUTAGE REPORT (May 1995)

- 1. Induced Draft Fan 6-1: A stiffener was replaced in the inlet box. The cover seal rings were replaced in the inboard and outboard vane center mechanism.
- 2. Induced Draft Fan 6-2: Five bolts were replaced in the common sheet of the outboard inlet box. The cover seal rings were replaced in the inboard and outboard vane center mechanism. The drain line of the fan housing was replaced and a crack was repaired.
- 3. Gas Recirculating Fan: The outboard damper was repaired and insulation was installed. One stiffered was replaced. The outboard inlet box side sheet was repaired. Two cracks in the fan housing were repaired. Three pins were replaced in the dampers. Control drive was repaired and the selenoid valve was replaced.
- 4. Steam Coils: The coil panels were replaced.
- -5. Bunker C Heater: Cleaned the internal sections of the elements. The BC heater shut-off valve was repaired (the internal and seals were replaced). One bunker C fuel heater relief valve was replaced. New elements were purchased, arrived in September 1996 and will be installed in the next outage.
- 6. Super Heater Spray Valve 6-2: Internal parts were replaced.
- 7. Viscometer: installed in this outage.
- 8. Feed Water Heaters No.6 and No.7: replaced in the outage of December 1994.

AGUIRRE

PUERTO RICO ELECTRIC POWER AUTHORITY AGUIRRE STEAM POWER PLANT DIVISION

INSPECTION & ANALYSIS AND HARDWARE UPGRADE PROGRAMS SUMMARY REPORT

FOR THE AGUIRRE STEAM POWER PLANT DIVISION - UNIT #1 Salinas, Puerto Rico



Prepared for

U.S. Environmental Protection Agency August 1995

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I. INSPECTION & ANALYSIS AND HARDWARE UPGRADE PROGRAMS IMPLEMENTATION AND SUBMISSION CERTIFICATIONS

I certify, to the best of my knowledge and belief, that the information contained in or accompanying this submission was prepared by qualified personnel who properly gathered and evaluated the information contained in the submission. I further certify that I have reviewed the information submitted and, to the best of my knowledge and belief, it is true, accurate, and complete.

Pascual W. Ortiz Ortiz

Aguirre Steam Power Plant Division Manager Puerto Rico Electric Power Authority

In my capacity as the Electrical System Director of PREPA, I hereby certify, under penalty of law, that the information contained in or accompanying this submission was prepared by qualified personnel who properly gathered and evaluated the information submitted. I further certified, based on a reasonable inquiry of the person or persons responsible for gathering such information, that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

To the best of my knowledge and belief, the Inspection & Analysis Program has been completed in accordance with Section V of the Consent Decree.

To the best of my knowledge and belief, the Hardware Upgrade Program has been completed in accordance with the requirements of Section V of the Consent Decree.

Roberto A. Volckers Esteves
Electrical System Director

Puerto Rico Electric Power Authority

II. INSPECTION AND ANALYSIS PROGRAM - INTRODUCTION

This summary report is submitted to the Environmental Protection Agency (EPA) by the Puerto Rico Electric Power Authority (PREPA) - Aguirre Steam Power Plant Division, in order to comply with the requirements established in Section V of the Consent Decree, under the Inspection and Analysis Program.

A list of the equipment components that were inspected and analyzed prior and during the Aguirre Steam Power Plant Division - Unit 1 environmental outage in 1995 is included and detailed. These components were determined to be repaired, replaced or installed during the outage following the results or conditions found on each inspection, and were performed during the Hardware Upgrade Program.

The report details the equipment, type of inspection performed (outage or pre-outage), and conditions or criteria used to recommend the repair, replacement or installation of each component.

The Inspection and Analysis Program was completed on June 19, 1995.

III. INSPECTION & ANALYSIS - PRE-OUTAGE INSPECTIONS

During a pre-outage inspection of the Aguirre Steam Power Plant Division - Unit #1 hardware components, the following deficiencies were discovered or found, and were recommended to be either repaired, installed or replaced in order to ensure the generating unit's environmental compliance with Rules 403 and 404 of the PRRCAP.

Fuel Oil Burners and Parts Inspection:

- 1. Some fuel oil burners block valves were found to be rigid and hard to operate. Also, oil leaks through the packing area were found in a few of them. The Mechanical Maintenance Section recommended to replace the actual packing by a new resilient type ones that lubricate the valve's stem, while preventing oil leaks.
- 2. Several fuel oil burners were found damaged in the sliding plate area due to stucking and rupturing while sliding them through the flexible pipe guide. The Mechanical Maintenance Section recommended the installation of a sliding shoe.
- 3. Stone & Webster Engineering Co. recommended that the atomizing steam piping size for each burner needs to be increased in order to improve fuel oil atomization and the combustion efficiency. The Mechanical Maintenance Section will increase the pipe size to 1-1/4 inches.
- 4. As a preventive maintenance measure, all fuel oil burners pistons and rod air seals will be replaced. This was recommended by the Pneumatic Maintenance Section.
- 5. After several tests with different spray plates and mixing plates combinations, Combustion Components Associates determined that the combination of spray plate model 10I-2-80 and backplate model 8I-19-136 achieves the desired fuel oil flow and atomizing mass ratio. This combination will be installed in the fuel oil burners.

Fuel Oil (Bunker C) Pumps Inspection:

- 1. Frequent corrective maintenance had been performed in the pumps packing area due to oil leaks. To minimize the maintenance periods and to increase the pumps availability, installation of a new mechanical sealing system was recommended by the Mechanical Maintenance Section. This work was previously performed in fuel oil service pump 1-1 as a trial. After the success obtained in fuel oil service pump 1-1, it was recommended to perform the same job on fuel oil service pump 1-2.
- 2. Electrical control problems were found in service pump 1-2 electric motor's breaker. An outage troubleshooting inspection is recommended by the Electrical Maintenance Section.

Fuel Oil (Bunker C) Heater Inspection:

- 1. Some fuel oil isolating valves packing on the heating elements were found leaking frequently under normal operation conditions. A new high density teflon type packing was recommended for installation by the Mechanical Maintenance Section.
- 2. The Performance Engineer recommended a chemical cleaning on the fuel oil side of each heating element. This was recommended in order to remove isolating residues, and improve the heater's efficiency.
- 3. Fuel oil heating elements #2, #8, #10, #16, #22 & #24 relief valves were found with internal leaks during normal operation conditions. These were found to be designed for steam and not for fuel oil use. It was recommended to replace all the valves by the properly designed ones.

Ignitor & Scanner System Inspection:

All flame scanner hoses need to be replaced as a preventive maintenance measure.

Windbox Components Inspection:

- 1. Some fuel and auxiliary air dampers supply flexible hose lines were found deteriorated. Replacement of all of them was required as a preventive maintenance measure.
- 2. New designed swirlers will be installed following Radian, Corp. recommendations, in order to improve the combustion. These were prepared while the unit was in service in order to minimize the installation time required.

Steam Coils Inspection:

1. Steam coil panels needed to be replaced by larger ones in order to increase the air preheaters inlet air temperature, and decrease the cold side baskets corrosion. This was recommended by PREPA's Technical & Operational Analysis Division.

Boiler Ductwork Inspection:

- 1. Expansion joint A-7 (1-2 side) was found to be highly corroded and damaged. It was recommended to be repaired by Boilers Maintenance Section.
- 2. The tempering air duct between the FDF's and the GRF has become a source of air leakage to the furnace. It was determined to be removed during the outage.

Instrumentation Components Inspection:

1. Two additional oxygen cells were recommended to be installed in the economizer outlets (one on each duct). This was required by the Electronics Maintenance Section for additional control purposes.

Boiler Components Washing:

1. The following boiler sections and components were determined to be washed and cleaned during the next outage to improve the boiler's thermal efficiency, and remove old soot particles

that affect the opacity. These are:

- a) Air and gas ducts and hoppers
- b) Economizer ducts and hoppers
- c) Stacks 1-1 and 1-2
- d) Reheater elements
- e) Superheater elements
- f) Economizer elements
- g) Windboxes
- h) Vestibule sections
- I) IDF's to stacks ducts
- j) Air preheaters to IDF's ducts
- k) Economizer to air preheaters ducts
- 1) Furnace waterwalls tubes
- m) Boiler's furnace bottom
- n) Superheater's platen section
- o) Air preheaters 1-1 & 1-2
- p) Induced draft fans 1-1 & 1-2
- q) Forced draft fans 1-1 & 1-2
- p) Gas recirculation fan

Fuel, Oil (Bunker C) Control Valves Inspection:

1. The temperature control valve for the fuel oil heater was found with leaks through the packing area. Replacement of the packing was recommended.

Feedwater Heaters Inspection:

- 1. The Feedwater Heater #7 steam supply non-return valve was found leaking in the level arm's packing area. Replacement of the packing was recommended.
- 2. The Feedwater Heater #7 steam supply non-return valve was found leaking in the valve's flange area. Replacement of the gasket was recommended.
- 3. Feedwater Heaters #6 and #7 were detected as broken during normal operation conditions by the Operations Section. These were isolated and recommended to be close inspected and repaired.

4. Feedwater Heater #6 outlet isolating valve was detected with possible internal leaks. This was determined while isolating the heater. Valve's close inspection and repair are recommended.

Waterwalls Tube Integrity Inspection:

- 1. Two waterwall tube samples were determined to be removed, and sent for integrity analysis. This was recommended by the Chemical Laboratory Section.
- 2. As a standard operation procedure, a hydrostatic test was determined to be performed in the poiler to check for any tube leaks, prior to the unit start-up.

IV. INSPECTION & ANALYSIS - ENVIRONMENTAL OUTAGE INSPECTIONS

During several outage inspections of the Aguirre Steam Power Plant Division - Unit #1 components, the following deficiencies were discovered or found, and were recommended to be either repaired or replaced in order to ensure the unit's environmental compliance.

Fuel Oil Burners and Parts Inspection:

- 1. Some burners fuel oil and atomizing steam flexible hoses were found with the wire mesh damaged. These needed to be replaced by new ones.
- 2. Fuel oil burner 2-C had a damaged integrated circuit chip that created a problem in the scavenge logic command. The replacement of the chip was recommended.
- 3. Fuel oil burner 2-D atomizing air 3-way valve was found with an electric coil damaged. Replacement of the coil is recommended.
- 4. Fuel oil burner 4-D needs the scavenge 3-way valve's electric coil to be replaced since found burned.

Fuel Oil (Bunker C) Control Valves Inspection:

1. Some atomizing steam valves lock-ups were detected with instrument air leaks. The replacement of the diaphragms and the calibration of the valve's stem travel were recommended.

Ignitor and Scanner System Inspection:

- 1. Ignitor nozzle at fuel oil burner 4-C was found burned and eroded. This needed to be replaced.
- 2. Some fuel oil burners ignitor sparks were found with burned cables. As a preventive maintenance measure, all sixteen (16) sparks needed to be replaced.
- 3. Six (6) ignitor IFM rods were found bent, and they needed to be replaced.

Air Preheaters Inspection:

- 1. Some air leakages were detected in some of the access doors due to misaligned o damaged gaskets. These needed to be replaced.
- 2. Some leaks were detected in the gas side ducts. They needed to be repaired by welding.
- 3. Some radial seals on the cold and hot sides of both air preheaters were found damaged due to corrosion and bending. These were recommended to be replaced, as well as the good ones as a preventive maintenance measure.
- 4. Rotor post seals at both air preheaters cold end side were found corroded. They needed to be replaced.
- 5. Some grating supports on each air preheater were found eroded and loose. These needed to be either repaired by welding or replaced.
- 6. The sector plate at the inboard adjustor of air preheater 1-2 (hot side) was found perpoded and corroded, and needed to be replaced.

- 7. Cold baskets on both air preheaters were found with little corrosion starting to show.

 They were determined not to be replaced yet, since integrity is still in acceptable conditions.
- 8. All the diaphragms at cold side area in both air preheaters were found eroded and thin. These needed to be replaced.
- 9. The cold side axial by-pass seal on air preheater 1-1 was found thin due to erosion and corrosion. This needed to be replaced.
- 10. Some gas leaks between cold side sector and axial plates needed to be repaired. Patching and welding were required.
- 11. Some air leaks in the static seals of both air preheaters cold side sector plates needed to be repaired by patching and welding.
- 12. All access doors gaskets needed to be replaced by new ones as a preventive maintenance measure against future leaks.
- 13. Some ducts stiffeners were found loose in both air preheaters, and needed to be either replaced or welded back.
- 14. Rotor angles (both cold and hot sides) in both air preheaters were found corroded. These needed to be replaced.
- Some cracks in air preheater 1-1 duct were found, and needed to be repaired by welding.

16. An air leak in the air preheater 1-1 sight glass needed to be repaired. Either welding or replacement was required.

Windbox Components Inspection:

- 1. The following auxiliary air nozzle tips were found burned and deteriorated. They needed to be replaced as follows:
 - a) Burner 1-A = upper/inboard
 - b) Burner 1-B = upper/inboard
 - c) Burner 2-B = upper/inboard
 - d) Burner 2-B = lower/inboard
 - e) Burner 3-B = upper/inboard
 - f) Burner 3-B = lower/inboard
 - g) Burner 3-B = lower/outboard
 - h) Burner 2-C = upper/inboard
 - I) Burner 1-D = upper/inboard
 - j) Burner 3-D = lower/inboard
- 2. The following auxiliary air nozzles were found burned and deteriorated. They needed to be replaced as follows:
 - a) Burner 4-A = upper/outboard
 - b) Burner 4-B = upper/outboard
 - c) Burner 4-C = upper/outboard
 - d) Burner 4-D = upper/outboard
- 3. Due to the installation of the new designed swirlers, all burners diffusers, hoses and buckets needed to be replaced as well.
- 4. Some cracks at the bottom burner pocket in corner D were found, and needed to be prepaired by welding.

Induced Draft Fans Inspection:

1. IDF 1-1:

- a) Six cracks were found at the right side of the fan's inlet box recess flange. Patching and welding was required.
- b) A 1.5 inch crack was found in the fan's inlet box recess flange. Patching and welding was required.
- c) Four cracks were found in the fan's left side inlet cone flange. Patching and welding was required.
- d) Two cracks were found in the fan's bottom rear side inlet box. Patching and welding was required.
- e) Five duct stiffeners were found to be damaged (loose and corroded) in the fan's right side pocket. Replacement of these stiffeners was recommended.
- f) Some cracks and insulation damage were found in the fan's access doors. Patching and welding, and replacement of insulation were recommended, respectively.
- g) Some access doors and drain pipes gaskets were found damaged or misaligned. These were recommended to be replaced in order to prevent any gas leaks.
- h) An electronic limit switch was found damaged in the fan's outlet dampers control drive. This one needed to be replaced.
- Both air seals needed to be replaced, since found worn out and brittle.

j) Some inlet control vanes and outlet dampers drive's piston and brakes seals were found deteriorated (air leaks). Replacement of theses damaged seals was recommended.

2. IDF 1-2:

- a) Some access doors and drain pipes gaskets were found damaged or misaligned. These were recommended to be replaced in order to prevent any gas leaks.
- b) A 1.5 inch crack was found at the right side of the fan's inlet box recess flange. Patching and welding was required.
- c) A 1.5 inch crack was found in the fan's inlet box recess flange. Patching and welding was required.
- d) Eight duct stiffeners were found to be damaged (loose and corroded) in both of the fan's pockets. Replacement of these stiffeners was recommended.
- e) Some cracks and insulation damage were found in the fan's access doors. Patching and welding, and replacement of insulation were recommended, respectively.
- f) Both air seals needed to be replaced since they were found worn out and brittle.
- g) A life extension modification was determined to be performed in the duct stiffeners base, which included the installation of a support plate welded to the stiffener and the fan's duct. This was recommended by the Turbines and Auxiliary Equipment Maintenance Section.
- h) Some inlet control vanes and outlet dampers drive's pistons and brakes seals were found deteriorated (air leaks). Replacement of theses damaged seals was recommended.

Forced Draft Fans Inspection:

1. FDF 1-1:

- a) A crack in the fan's housing scroll at the top-left side was found. Patching and welding was required.
- b) A crack in the fan's bottom front side of the left inlet box was found. Patching and welding was required.
- c) Some access doors gaskets were found damaged or misaligned. These were recommended to be replaced in order to prevent any air leaks.
- d) Some inlet control vanes and outlet dampers drive's piston and brakes seals were found deteriorated (air leaks). Replacement of theses damaged seals was recommended.

2. FDF 1-2:

- a) Some access doors gaskets were found damaged or misaligned. These were recommended to be replaced in order to prevent any air leaks.
- b) Some inlet control vanes and outlet dampers drive's piston and brakes seals were found deteriorated (air leaks). Replacement of theses damaged seals was recommended.
- 3. The integrated circuit chip of the "Lost of FDF's" panel alarm was found damaged. The replacement of the circuit was recommended.

Gas Recirculation Fan Inspection:

1. Some access doors gaskets and bolts were found damaged or misaligned. These were recommended to be replaced in order to prevent any gas leaks.

2. A lube oil leak was detected in the fan's outboard bearing area. Close inspection and repair was recommended.

Steam Coils Inspection:

1. Both steam coils temperature control regulator valves were detected with internal leaks. Both valve internals were recommended to be replaced.

Boiler Ductwork Inspection:

- 1. The following expansion joints in the boiler ducts were found deteriorated or damaged. They required to be repaired by patching and welding, or by replacement of the joint. These are:
 - a) Expansion joint A-7 (1-1 side) cracks found.
 - b) Expansion joint A-8 (1-2 side) cracks found.
 - c) Superheater desuperheater lines crossover expansion joints deteriorated.
 - d) Main steam line (9th floor) expansion joint deteriorated.
 - e) Expansion joint A-3 (near corner D) corroded & damaged.
- 2. Some of the observation ports and furnace access doors packing were found damaged. Replacement of the packing was recommended to decrease the furnace air infiltration.

Instrumentation Components Inspection:

- 1. The thermocouples in the economizer duct 1-2 were found with the cables damaged. The replacement of the thermocouples was recommended.
- 2. Both air preheaters gas side thermocouples were found with damaged cables. The placement of the thermocouples was recommended.

Sootblowing System Inspection:

1. All sootblowers rotation motors starting contacts were replaced as a preventive

maintenance measure.

V. HARDWARE UPGRADE PROGRAM - INTRODUCTION

This report is submitted to the Environmental Protection Agency (EPA) by the Puerto Rico Electric Power Authority (PREPA) - Aguirre Steam Power Plant Division, in order to comply with the requirements established in the Section V of the Consent Decree, under the Hardware Upgrade Program.

A list of the hardware components that were installed, replaced or repaired during the Aguirre Steam Power Plant Division - Unit #1 environmental outage in 1995 is included and detailed. These components were either repaired, replaced or installed due to the Inspection and Analysis Program report of the Section V of the Consent Decree between EPA and PREPA.

The equipment list details the activities performed, the date they were accomplished, and the section or contractor responsible for each activity. All activities that were not accomplished are typed in bold and the reasons for not being performed are explained separately.

The Hardware Upgrade Program was completed on June 19, 1995.

DATE	Fuel Oil Burners & Parts	SECTION
6/8/95	A sliding shoe was installed in each burner to avoid ruptures in the sliding plates.	SECTION TMA
6/17/95	All burner tips and mixing plates were replaced by a new designed ones.	
6/17/96	Atomizing steam piping to each burner was replaced by larger one (1.25").	OPE
6/15/95	All damaged fuel and steam flexible hoses were replaced.	TMA
6/8/95	All 16 burners block valve packing were replaced by resilient type ones.	APA
6/16/95	All burners pneumatic pistons and rods were repaired.	TMA
6/16/95	Burner 2-C's "no-scavenge" logic condition was repaired.	TPA
6/17/95	Burner 4-D's "no-scavenge" field condition was repaired.	TIEA
6/17/95	Burner 2-D's 3-way valve was repaired on the atomizing air valve.	TIEA
	The state of the destricting all valve.	TIEA
	Fuel Oil Pumps	
6/6/95	The BCSP 1-2 old packing system was replaced by a new mechanical seal system.	Tita
6/4/95	Electrical control and motor's breaker problems on the BCSP 1-2 were repaired.	TMA
	promoting on the Boot 1-2 were repaired.	TEA
	Fuel Oil Heater	
6/12/95	All fuel oil heater elements isolating valves packing were replaced by teflon ones.	TMA
6/15/95	A chemical cleaning (alkaline) was performed in all fuel oil heater elements.	
6/17/95	All fuel oil heater elements relief valves were replaced.	Induchem
		IPA
	Viscometer	
N/A	No work was required after inspected	N/A
		IVA
	Fuel Oil Control Valves	
6/9/95	Fuel oil heater temperature control valve (FCV-23) packing was replaced.	TPA
6/13/95	All burners atomizing steam valves lock-ups were repaired.	TPA
)	·	111
ν_{\prime}	Ignitor & Scanner System	1
6/15/95	All flame scanner hoses were replaced.	APA
6/8/95	All 16 burners ignitor spark cables were replaced.	TIEA
6/8/95	Six ignitor IFM rods were replaced.	TIEA
6/15/95	The fuel oil burner 4-C ignitor's nozzle w as replaced.	APA

DATE	Air Preheaters	SECTION
6/12/95	The state were round with fittle corrosion signs.	APA
6/12/95	to the diaphragins at cold side areas were found thin	APA
6/16/95	The AH's 1-1 & 1-2 rotor angles (cold & hot sides) need to be replaced	APA
6/16/95	All AH's 1-1 & 1-2 access doors gaskets were replaced.	APA
6/12/95	- Cold side was replaced.	
6/14/95	Radial seals (cold & hot sides) were replaced in AH's 1-1 & 1-2.	APA
6/14/95	Sealing and outer tabs on the cold side radial seals in both AH's were replaced.	APA
6/14/95	Rotor post seals at AH's 1-1 & 1-2 cold end sides were replaced.	APA
6/16/95	Some air leaks were repaired in AH's 1-1 & 1-2 access doors.	APA
6/14/95	Air leaks in the static seals of AH's 1-1 & 1-2 cold side sector plates were repaired.	APA
6/16/95	Some gas leaks were repaired in AH's 1-1 & 1-2 gas ducts.	APA
6/16/95	Loose or broken stiffeners were repaired on the AH's 1-1 & 1-2 air cold side.	APA
6/15/95	Some welding was performed at AH's 1-1 & 1-2 grating supports.	APA
6/11/95	Some cracks in the air duct of the AH 1-1 were repaired.	APA
6/8/95	Both air preheaters were washed and cleaned (baskets and casing).	APA
6/15/95	The sector plate at the inboard adjuster of AH 1-2 (hot side) was replaced.	Induchem
6/15/95	Some air leaks were repaired between sector and axial plates in the gas cold side.	APA
6/17/95	An air leak through a sight glass, near the AH 1-1 support bearing wall, was repaired.	APA
	The state of the s	APA
	Windbox Components	-
6/15/95	All burners fuel air nozzles, hoses and buckets were replaced.	APA
6/15/95	Burner 1-A upper inboard auxiliary air nozzle tip was replaced.	APA
6/15/95	Burner 4-A upper outboard auxiliary air nozzle was replaced.	APA
6/15/95	Burner 1-B upper inboard auxiliary air nozzle tip was replaced.	APA
6/15/95	Burner 2-B upper inboard auxiliary air nozzle tip was replaced.	APA
6/15/95	Burner 2-B lower inboard auxiliary air nozzle tip was replaced.	APA
6/15/95	Burner 3-B upper inboard auxiliary air nozzle tip was replaced.	APA
6/15/95	Burner 3-B lower inboard auxiliary air nozzle tip was replaced.	APA
6/15/95	Burner 3-B lower outboard auxiliary air nozzle tip was replaced.	APA
6/15/95	Burner 4-B upper outboard auxiliary air nozzle was replaced.	APA
6/15/95	Burner 2-C upper inboard auxiliary air nozzle tip was replaced.	APA
6/15/95	Burner 4-C upper outboard auxiliary air nozzle was replaced.	APA
6/15/95	Burner 1-D upper inboard auxiliary air nozzle tip was replaced.	APA
6/15/95	Burner 3-D lower inboard auxiliary air nozzle tip was replaced.	APA
6/15/95	Burner 4-D upper outboard auxiliary air nozzle was replaced.	APA
6/14/95	All burners diffusers (swirlers) and diffuser hoses were replaced.	

<u>DATE</u> 6/4/95	Windbox Components (cont.)	SECTION
6/15/95	Fuel air and auxiliary dampers flexible hoses were replaced.	TPA
0/13/93	Some cracks at the bottom burner pocket in corner D were repaired.	APA
	Induced Burger	
6/15/95	A life extension modification was a few forms	
6/16/95	the IDF 1-2	APA
6/16/95	pipes gaskets were replaced in the IDF 1-1.	APA
6/16/95	The resident the replaced.	APA
6/6/95	Five stiffeners in the right side pocket of the IDF 1-1 were replaced.	APA
6/16/95	In the IDF 1-1 outlet damper control drive, an electronic limit switch was replaced.	TEA
6/16/95	Six cracks were repaired at the IDF 1-1 at the right side of the inlet box recess flange.	APA
6/16/95	A 1.5 in. crack in the IDF 1-1 inlet box recess flange was repaired (patched & welded).	APA
6/16/95	Four cracks in the left side inlet cone flange and inlet box bottom of the IDF 1-1 were re	APA
	Two cracks were repaired in the IDF 1-1 bottom rear side inlet box.	APA
6/16/95	Main access doors were repaired (insulation and cracks) in the IDF 1-1.	APA
	Eight stiffeners in both pockets of the IDF 1-2 were replaced.	APA
6/15/95	All access doors and drain pipes gaskets were replaced in the IDF 1-2.	APA
6/15/95	Both air seals in the IDF 1-2 were replaced.	APA
0/15/95	A 1.5 in. crack in the IDF 1-2 inlet box recess flange was repaired (patched & welded).	APA
0/15/95	A 1.5 in. crack in the IDF 1-2 at the right side of the recess flange was repaired .	APA
6/15/95	Main access doors were repaired (insulation and cracks) in the IDF 1-2.	APA
6/10/95	IDF's 1-1 & 1-2 pockets and fans were washed and cleaned.	APA
6/17/95	Inlet control vanes and outlet dampers drives were repaired in the IDF's 1-1 & 1-2.	TPA
	Forced Draft Fans	
6/16/95	The tempering air duct between the GRF and the FDF's discharge was eliminated.	71.1.
6/14/95	Some FDF 1-1 access doors gaskets were replaced.	TMA
6/15/95	Some FDF 1-2 access doors gaskets were replaced.	APA
6/14/95	A crack in the FDF 1-1 housing scroll at the top-left side was patched and welded.	APA
6/14/95	A crack in the FDF 1-1 at the bottom front side of the left inlet box was patched and well	APA
6/17/95	Inlet control vanes and outlet dampers drives were repaired in the FDF's 1-1 & 1-2.	APA
6/16/95	Faulty "Lost of FDF's" alarm was repaired.	TPA
	FDF's 1-1 & 1-2 pockets and fans were washed and cleaned.	TERR
		ILKK
2/40/27	Gas Recirculation Fan	
3/13/95	New gaskets and bolts were replaced in all access doors of the GRF.	APA
	GRF pockets and fan were washed and cleaned.	TERR
5/12/95	An oil leak was repaired in the GRF's outboard bearing.	APA

DATE	Steam Coils	SECTION
6/16/95	Steam coils 1-1 & 1-2 panels were replaced by larger ones to increase the outlet temp.	Maxon
6/3/95	Steam coils 1-1 & 1-2 temp: control valve's internals were replaced.	TPA
	Boiler Ductwork	
6/15/95	Expansion joint A-7 (1-2 side) - 90% of total area was replaced.	
6/15/95	Expansion joint A-7 (1-1 side) - cracks were repaired.	APA
6/15/95	Expansion joint A-8 (1-2 side) - cracks were repaired.	APA
6/16/95	Main steam desuperheater lines expansion joints at 8th floor (2 each) were repaired.	APA
6/16/95	Main steam line expansion joint at 9th floor was repaired.	APA
6/16/95	Expansion joint A-3 near the corner D windbox was repaired.	APA
6/16/95	Some observation ports packing were replaced.	APA
6/15/95	Some manholes or furnace access deep and in	APA
	Some manholes or furnace access doors packing were replaced.	APA
	Instrumentation Components	
6/10/95	Tubing lines with shut-off valves were installed for the new oxygen cells.	TPA
6/15/95	Two additional oxygen cells were installed (one on each economizer duct)	TIEA
6/10/95	Economizer duct 1-2 thermocouple was replaced.	TIEA
6/13/95	Conduit cables were installed to power supply (120V ac) the new oxygen cell.	TEA
6/14/95	AH's 1-1 & 1-2 gas side thermocouples were replaced.	TIEA
	Sootblowing System	
6/14/95	New starting contacts were replaced on each sootblower's rotation motor.	
	editable were replaced on each soliblower's rotation motor.	TEA
	Boiler Components Washing	
6/8/95	Air and gas hoppers were washed and cleaned.	Ind/JR Ins
6/8/95	Economizer ducts and hoppers were washed and cleaned.	Ind/JR Ins
6/7/95	Air and gas ducts were washed and cleaned.	Ind/JR Ins
6/8/95	Stacks 1-1 and 1-2 were washed and cleaned.	Ind/JR Ins
6/8/95	Reheater elements at front side section were washed.	
6/5/95	Superheater elements at front side and intermediate sections were washed.	Induchem
6/11/95	Reheater and economizer elements at rear side section were washed.	Induchem
6/7/95	Windboxes (east and west) were washed and cleaned.	Induchem
6/11/95	Vestibule sections were washed and cleaned.	Ind/JR Ins
	Ducts from IDF's to stacks were washed and cleaned.	Ind/JR Ins
	Ducts from AH's to IDF's were washed and cleaned.	Ind/JR Ins
	Ducts from economizer to AH's were washed and cleaned.	Ind/JR Ins
	Furnace waterwall tubes were partially washed or hydroblasted.	Ind/JR Ins
6/8/95	Superheater's platen section was washed.	Induchem
	Boiler's bottom was washed and cleaned.	Induchem

DATE	Steam Control Components	SECTION
N/A	No work was required after inspected	N/A
	Feedwater Heaters	
7/5/95	The 7th extraction NRV's packing was replaced and flange's leaks repaired.	TRAA
7/14/95	Heater #6 water suction isolating valve was repaired due to internal leaks.	TMA
6/17/95	Several leaking tubes in high pressure heaters #6 and #7 were plugged and tested.	ENSYSA Senior
	Waterwall Tubes Integrity	
6/14/95	Chemical analysis was performed in two waterwall tube samples taken.	LAB
6/14/95	Hydrostatic test was performed in the boiler at 2500 psig.	OPE

VI. HARDWARE UPGRADE PROGRAM - WORKS NOT PERFORMED

The following items were determined to be installed, repaired or replaced in the Inspection and Analysis Program of the EPA-PREPA Consent Decree, but for several reasons, they could not be accomplished in the Unit #1 Environmental Outage of 1995. The items and the reasons are described as follows:

- 1. The cold baskets in both air preheaters were found with little corrosion starting to show during an outage inspection. These baskets were installed in the 1994 Annual Outage, and they had an enamel coating as a new design feature. The baskets integrity was complete, so it was determined that they could last for several years. These will be inspected on the next environmental outages for integrity.
- 2. The cold side diaphragms in both air preheaters were found thin during the outage inspection. To replace them, it requires a total air preheater outage which includes the removal of all baskets (cold, hot and intermediate) to fix it. Due to the complex work required and the extended periods of time required to complete it, it was determined not to perform the work in this 2-week scheduled outage. These will be replaced in the next extended outage available.
- 3. The cold and hot side rotor angles in both air preheaters needed to be replaced according to the outage inspection performed. The reasons for not performing the job were the same as for the diaphragms, previously discussed. These will be replaced in the next environmental outage.
- 4. The atomizing steam supply lines to each burner project could not be finished due to the lack of time scheduled. Corners B and C were left to be modified during the next available outage.

PUERTO RICO ELECTRIC POWER AUTHORITY AGUIRRE STEAM POWER PLANT DIVISION

INSPECTION & ANALYSIS AND HARDWARE UPGRADE PROGRAMS SUMMARY REPORT

FOR THE AGUIRRE STEAM POWER PLANT DIVISION - UNIT #2 Salinas, Puerto Rico



Prepared for

U.S. Environmental Protection Agency August 1995

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I. INSPECTION & ANALYSIS AND HARDWARE UPGRADE PROGRAMS IMPLEMENTATION AND SUBMISSION CERTIFICATIONS

I certify, to the best of my knowledge and belief, that the information contained in or accompanying this submission was prepared by qualified personnel who properly gathered and evaluated the information contained in the submission. I further certify that I have reviewed the information submitted and, to the best of my knowledge and belief, it is true, accurate, and complete.

Pascual W. Ortiz Ortiz

Aguirre Steam Power Plant Division Manager Puerto Rico Electric Power Authority

In my capacity as the Electrical System Director of PREPA, I hereby certify, under penalty of law, that the information contained in or accompanying this submission was prepared by qualified personnel who properly gathered and evaluated the information submitted. I further certified, based on a reasonable inquiry of the person or persons responsible for gathering such information, that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

To the best of my knowledge and belief, the Inspection & Analysis Program has been completed in accordance with Section V of the Consent Decree.

To the best of my knowledge and belief, the Hardware Upgrade Program has been completed in accordance with the requirements of Section V of the Consent Decree.

Roberto A. Volckers Esteves
Electrical System Director

Puerto Rico Electric Power Authority

II. INSPECTION AND ANALYSIS PROGRAM - INTRODUCTION

This summary report is submitted to the Environmental Protection Agency (EPA) by the Puerto Rico Electric Power Authority (PREPA) - Aguirre Steam Power Plant Division, in order to comply with the requirements established in Section V of the Consent Decree, under the Inspection and Analysis Program.

A list of the equipment components that were inspected and analyzed prior and during the Aguirre Steam Power Plant Division - Unit 2 environmental outage in 1995 is included and detailed. These components were determined to be repaired, replaced or installed during the outage, following the results or conditions found on each inspection, and were performed during the Hardware Upgrade Program.

The report details the equipment, type of inspection performed (outage or pre-outage), and conditions or criteria used to recommend the repair, replacement or installation of each component.

The Inspection and Analysis Program was completed on July 8, 1995.

III. INSPECTION & ANALYSIS - PRE-OUTAGE INSPECTIONS

During a pre-outage inspection of the Aguirre Steam Power Plant Division - Unit #2 hardware components, the following deficiencies were discovered or found, and were recommended to be either repaired, installed or replaced in order to ensure the generating unit's environmental compliance with Rules 403 and 404 of the PRRCAP.

Fuel Oil Burners and Parts Inspection:

- 1. The fuel oil burner 3-C block valve was not operationally available since it got stucked or "frozen" while the generating unit was in service. Replacement of the valve was recommended.
- 2. As a preventive maintenance, all burners pistons and rod air seals were determined to be replaced. This was recommended by the Pneumatic Maintenance Section.

Fuel Oil (Bunker C) Pumps Inspection:

1. Frequent corrective maintenance had to be performed in the pumps packing area due to oil leaks. To minimize the maintenance periods and to increase the pumps availability, installation of a new mechanical sealing system was recommended by the Mechanical Maintenance Section. This work was previously performed on fuel oil service pump 2-1 as a trial. After the success obtained on fuel oil service pump 2-1, it was recommended to perform the same job in fuel oil service pump 2-2.

Fuel Oil Heater Inspection:

1. Some fuel oil isolating valves packing of the heating elements were found leaking frequently under normal operation conditions. A new high density teflon type ones were ecommended for installation by the Mechanical Maintenance Section.

- 2. The Performance Engineer recommended a chemical cleaning on the fuel oil side of each heating element. This was recommended in order to remove all isolating residues, and improve the heater's efficiency.
- 3. Fuel oil heating element #8 needed to be replaced. It was found broken, andwas previously isolated by the Operations Section, while the unit was in service.
- 4. As a preventive maintenance measure, all heating elements relief valves neede to be replaced since the actual ones were found to be designed for steam and not for fuel oil use.

Fuel Oil Control Valves:

- 1. During normal operation conditions, several control valves experienced precision control problems. These valves are the fuel oil main control valve and the fuel oil minimum flow control valve. The replacement of the positioner by an Eckardt type one was recommended. This should provide a faster and more reliable response.
- 2. The fuel oil heater temperature control valve had experienced precision control problems. The replacement of the positioner by an Eckardt type one was recommended. This should provide a faster and more reliable response.

Ignitor & Scanner System Inspection:

1. The ignitor booster fans suction duct will be modified (separate independently) in order to increase the capacity of the system and decrease each of the fans load.

Air Preheaters Inspection:

1. An air leak was detected in a sight glass located at the air preheater 2-1 support bearing area. Replacement of the glass was recommended.

2. The air preheater 2-1 temperature switch of the support bearing was giving wrong and inaccurate readings. The replacement of the switch was required.

Steam Coils Inspection:

- 1. Steam coil panels needed to be replaced by larger ones in order to increase the air preheaters inlet air temperature, and decrease the cold side baskets corrosion. This was recommended by PREPA's Technical & Operational Analysis Division.
- 2. Two cracks were found in the steam return line from steam coil 2-2 to the main condenser (one in front of the auxiliary condenser and another in the steam return header). Due to the poor piping integrity found, the replacement of both pipe sections was recommended by the Mechanical Maintenance Section.
- 3. At normal operation conditions, the steam coils 2-1 and 2-2 temperature control valves had experienced precision control problems. The replacement of the positioner by an Eckardt brand type one was recommended. This should provide a faster and more reliable response.

Instrumentation Components Inspection:

1. Two additional oxygen cells were recommended to be installed in the economizer outlets (one on each duct). This was required by the Electronics Maintenance Section for additional control purposes.

Sootblowing System:

1. The sootblowing system's pressure switch had been working improperly. The replacement of the switch was required.

Boiler Components Washing:

- 1. The following boiler sections and components were determined to be washed and cleaned during the next outage to improve the boiler's thermal efficiency and remove old soot particles that affect the opacity. These are:
 - a) Air and gas ducts and hoppers
 - b) Economizer ducts and hoppers
 - c) Stacks 2-1 and 2-2
 - d) Reheater elements
 - e) Superheater elements
 - f) Economizer elements
 - g) Windboxes
 - h) Vestibule sections
 - I) IDF's to stacks ducts
 - j) Air preheaters to IDF's ducts
 - k) Economizer to air preheaters ducts
 - 1) Furnace waterwalls tubes
 - m) Boiler's furnace bottom
 - n) Superheater's platen section
 - o) Air preheaters 2-1 & 2-2
 - p) Induced draft fans 2-1 & 2-2
 - q) Forced draft fans 2-1 & 2-2
 - p) Gas recirculation fan

Steam Control Components Inspection:

1. The atomizing steam regulator valve's "OPEN/CLOSE" control I/P needed to be replaced by a Rosemount brand one in order to make the actual control system more reliable. This was recommended by the Electronics Maintenance Section.

Feedwater Heaters Inspection:

1. Feedwater Heater #6 was detected to be broken during normal operation conditions by the Operations Section. It was isolated and recommended to be close inspected and pepaired.

- 2. Feedwater Heater #7 outlet isolating valve was detected with pressure seals leakage. Valve's close inspection and repair were recommended.
- 3. The feedwater heaters #6 and #7 steam supply non-return valves were found inoperant. A close internal inspection of the piston internals was requested to be performed during the outage.

Waterwalls Tube Integrity Inspection:

1. As a standard operation procedure, a hydrostatic test was determined to be performed in the boiler to check for any tube leaks, prior to the unit start-up.

IV. INSPECTION & ANALYSIS - ENVIRONMENTAL OUTAGE <u>INSPECTIONS</u>

During several outage inspections of the Aguirre Steam Power Plant Division - Unit #2 components, the following deficiencies were discovered or found, and were recommended to be either repaired or replaced in order to ensure the unit's environmental compliance.

Fuel Oil Viscosity Meter:

1. After inspected, it was determined that the viscosity meter needed to be replaced by a new one since found giving and inaccurate readings.

Fuel Oil Burners and Parts Inspection:

1. Some atomizing steam valves lock-ups were detected with instrument air leaks. The replacement of the diaphragms and the calibration of the valve's stem travel was recommended.

Ignitor and Scanner System Inspection:

- 1. Fuel oil burner 3-C flame scanner hoses were found damaged. These were determined to be replaced by new ones.
- 2. Two (2) flame scanners needed to be replaced since the fiber optics were found damaged.

Air Preheaters Inspection:

- 1. Some air leaks were detected in some of the access doors due to misaligned or damaged gaskets. These needed to be replaced.
- 2. Some leaks were detected in the gas side ducts of both air preheaters. They needed to be repaired by welding.

- 3. Some radial seals on the cold and hot sides of both air preheaters were found damaged due to corrosion and bending. These were recommended to be replaced as well as the good ones, as a preventive maintenance measure.
- 4. Rotor post seals at air preheater 2-1 cold end side were found with little erosion signs. They needed to be replaced.
- 5. Some leaks were detected in the air side ducts of both air preheaters. They needed to be repaired by welding.
- 6. The sector plate at the outboard adjustor of air preheater 2-1 (hot side) was found very eroded and corroded, and needed to be repaired.
- 7. Cold baskets on both air preheaters were found with little corrosion starting to show. They were determined not to be replaced yet since integrity is still acceptable.
- 8. Rotor posts at air preheater 2-2 were found with several cracks. These needed to be repaired by patching and welding.
- 9. All static seals at both air preheaters needed to be patched and welded since cracks were found.
- 10. The gas cold side axial by-pass seals on both air preheaters were found thin due to erosion and corrosion. These needed to be replaced.
- 11. Some air leaks between cold side sector and axial plates needed to be repaired.

- 12. Some air leaks in the static seals of both air preheaters cold side sector plates needed to be repaired by patching and welding.
- 13. The lower washing device element on both air preheaters needed to be repaired or refurbished.

Windbox Components Inspection:

- 1. The following auxiliary air nozzles were found burned and deteriorated. They needed to be replaced as follows:
 - a) Burner 4-A = upper/outboard
 - b) Burner 4-B = upper/outboard
 - c) Burner 4-C = upper/outboard
 - d) Burner 4-D = upper/outboard
- 2. The following diffusers and diffuser hoses were found burned and deteriorated. They needed to be replaced as follows:
 - a) Burner 4-B
 - b) Burner 4-D
 - c) Burner 3-C (hoses only)
- 3. Some cracks at the bottom burner pocket in corners A and B were found, and needed to be repaired by welding.
- 4. Some fuel air and auxiliary air dampers were found with their positioners damaged. The replacement of the damaged power positioners was recommended.

Induced Draft Fans Inspection:

- 1. IDF 2-1:
 - a) Six duct stiffeners were found to be damaged (loose and corroded) in the fan's right-side pocket. Replacement of these stiffeners was recommended.

- b) Nine duct stiffeners were found to be damaged (loose and corroded) in the fan's left-side pocket. Replacement of these stiffeners was recommended.
- c) Some cracks and insulation damage were found in the fan's access doors. Patching and welding, and replacement of insulation were recommended.
- d) Some access doors and drain pipes gaskets were found damaged or misaligned. These were recommended to be replaced in order to prevent any gas leaks.
- e) The protection in the fan's inlet vanes leading edge and its welding were found worn out due to erosion. They required to be replaced.
- f) The inlet control vanes linkage system needs to be either repaired or replaced, since found deteriorated (worn out due to erosion and bar torsion).
- g) An electronic limit switch was found damaged in the fan's outlet dampers control drive. It needed to be replaced.
- h) Some inlet control vanes and outlet dampers drive's piston and brake seals were found deteriorated (air leaks found). Replacement of these damaged seals was recommended.

2. IDF 2-2:

- a) Some access doors and drain pipes gaskets were found damaged or misaligned. These were recommended to be replaced in order to prevent any gas leaks.
- b) Nine duct stiffeners were found to be damaged (loose and corroded) in the right-side pocket. Replacement of these stiffeners was recommended.

- c) Nine duct stiffeners were found to be damaged (loose and corroded) in the left-side pocket. Replacement of these stiffeners was recommended.
- d) Some cracks and insulation damage were found in the fan's access doors. Patching and welding, and replacement of insulation were recommended.
- e) An electronic limit switch was found damaged in the fan's outlet dampers control drive. It needed to be replaced.
- f) The protection in the fan's inlet control vanes leading edge and its welding were found worn out due to erosion. They required to be replaced or repaired.
- g) The base casting collar in the right-side of the fan's inlet box needed to be replaced since found highly eroded and damaged.
- h) The fan's wheel needed to be either repaired or replaced due to erosion .
- i) The inlet control vanes linkage system needed to be either repaired or replaced, since found deteriorated (worn out due to erosion and bar torsion).
- j) Some inlet control vanes and outlet dampers drive's piston and brakes seals were found deteriorated (air leaks found). Replacement of these damaged seals was recommended.

Forced Draft Fans Inspection:

1. FDF 2-1:

An outlet dampers loose leaf needed to be repaired since found bent.

- c) Some access doors gaskets were found damaged or misaligned. These were recommended to be replaced in order to prevent any air leaks.
- d) Some inlet control vanes and outlet dampers drive's piston and brakes seals were found deteriorated (air leaks found). Replacement of these damaged seals was recommended.

2. FDF 2-2:

- a) Some access doors gaskets were found damaged or misaligned. These were recommended to be replaced in order to prevent any air leaks.
- b) Some inlet control vanes and outlet dampers drive's piston and brakes seals were found deteriorated (air leaks found). Replacement of the damaged seals was recommended.

Gas Recirculation Fan Inspection:

- 1. Some access doors gaskets were found damaged or misaligned. These were recommended to be replaced in order to prevent any gas leaks.
- 2. An outlet dampers loose leaf needed to be repaired since found bent.

Boiler Ductwork Inspection:

- 1. The following expansion joints in the boiler ducts were found deteriorated or damaged. They required to be repaired by patching and welding. These are:
 - a) Expansion joint A-7 (2-2 side) cracks found.
 - b) Expansion joint A-7 (2-1 side) cracks found.
 - c) Expansion joint A-8 (2-2 side) cracks found.
 - d) Expansion joint G-1 (2-1 side) cracks found.
 - e) Expansion joint G-1 (2-2 side) cracks found.
 - f) Expansion joint G-2 (2-1 side) cracks found.
 - Expansion joint G-2 (2-2 side) cracks found

- h) Expansion joint G-7 (2-2 side) cracks found.
- 2. Some of the observation ports and furnace access doors packing were found damaged. Replacement of the packing was recommended to decrease the furnace air infiltration.
- 3. An air leak was detected in the west windbox casing. It needed to be repaired by patching and welding.

Instrumentation Components Inspection:

- 1. Both air preheaters gas side thermocouples were found with damaged cables. The replacement of the thermocouples was recommended.
- 2. Opacity monitor 2-2 needed to be replaced since it was found not operating properly or correctly.

Waterwalls Tube Integrity Inspection:

1. A pinhole was found in the steam cooled wall (over the economizer area). Welding was required to repair it.

V. HARDWARE UPGRADE PROGRAM - INTRODUCTION

This report is submitted to the Environmental Protection Agency (EPA) by the Puerto Rico Electric Power Authority (PREPA) - Aguirre Steam Power Plant Division, in order to comply with the requirements established in the Section V of the Consent Decree, under the Hardware Upgrade Program.

A list of the hardware components that were installed, replaced or repaired during the Aguirre Steam Power Plant Division - Unit #2 environmental outage in 1995 is included and detailed. These components were either repaired, replaced or installed due to the Inspection and Analysis Program report of the Section V of the Consent Decree between EPA and PREPA.

The equipment list details the activities performed, the date they were accomplished, and the section or contractor responsible for each activity. All activities that were not accomplished are typed in bold and the reasons for not being performed are explained separately.

The Hardware Upgrade Program was completed on July 8, 1995.

DATE	Fuel Oil Burners & Parts	SECTION
7/6/95	Burner 3-C block valve was replaced.	TMA
7/3/95	All burners pneumatic pistons were repaired.	TPA
7/7/95	All damaged burners steam and fuel oil flexible hoses were replaced.	APA
	Fuel Oil Pumps	
6/26/95	The BCSP 2-2 old packing system was replaced by a new mechanical seal system.	TMA
	Fuel Oil Heater	
6/30/95	A chemical cleaning (alkaline) was performed in all fuel oil heater elements.	Induchem
6/30/95	All fuel oil heater elements isolating valves packings were replaced by teflon ones.	TMA
7/7/95	All fuel oil heater elements relief valves were replaced.	TPA
6/30/95	Fuel oil heater's fuel oil element #8 (Aguirre to Salinas) was replaced.	TMA
	Viscosity Meter	
7/6/95	Fuel oil viscosity meter needs to be replaced.	TIEA
	Fuel Oil Control Valves	
6/26/95	An Eckardt positioner was installed in fuel minimum fire control valve (PCV - 17).	TPA
7/6/95	An Eckardt positioner was installed on fuel heater temp control valve (FCV-23).	TPA
6/27/95	An Eckardt positioner was installed on fuel main control valve (FCV-3).	TPA
6/28/95	All burners atomizing steam valves lock-ups were repaired.	TPA
	Ignitor & Scanner Systems	
7/8/95	Burner 3-C flame scanner hoses were replaced.	APA
7/3/95	The suction filters on the ignitor booster fans 2-1 & 2-2 were modified.	TMA
6/26/95	Two flame scanners were replaced.	TIEA
	Air Preheaters	
7/1/95	AH 2-1 rotor post seals on cold side were found with little erosion signs.	APA
6/29/95	Cold baskets were found with little corrosion signs.	APA
/7/1/95	Lower washing device elements in both AH's 2-1 & 2-2 need to be repaired.	APA

DATE	Air Preheaters (cont.)	SECTION
7/3/95	Inspect temperature switch on AH 2-1 support bearing's forced lubrication system.	TPA
7/1/95	The by-pass seals on AH's 2-1 & 2-2 at gas cold side were replaced.	APA
7/2/95	Radial seals (cold & hot sides) were replaced in AH's 2-1 & 2-2.	APA
7/3/95	All AH's 2-1 & 2-2 access doors gaskets were replaced.	APA
7/2/95	Rotor post at AH 2-2 was welded and repaired.	APA
7/1/95	All static seals at AH's 2-1 & 2-2 were patched and welded.	APA
7/2/95	The sector plate at the outboard adjustor of AH 2-1 hot side was repaired.	APA
7/3/95	Some gas leaks were repaired in AH's 2-1 & 2-2 gas ducts.	APA
7/3/95	Some air leaks were repaired between sector and axial plates in the cold side.	APA
7/3/95	Air leaks in the static seals of AH's 2-1 & 2-2 cold side sector plates were repaired.	APA
6/27/95	Both air pre-heaters were washed and cleaned.	Induchem
7/3/95	Some air leaks were repaired in AH's 2-1 & 2-2 air ducts.	APA
7/3/95	An air leak through a sight glass near to the AH 2-1 support bearing's wall was repaired.	APA
	Windbox Components	
7/7/95	Burner 4-A upper outboard auxiliary air nozzle was replaced.	APA
7/7/95	Burner 4-B upper outboard auxiliary air nozzle was replaced.	APA
7/7/95	Burner 4-C upper outboard auxiliary air nozzle was replaced.	APA
7/7/95	Burner 4-D upper outboard auxiliary air nozzle was replaced.	APA
7/8/95	Burner 4-B diffuser and diffuser hoses were replaced.	APA
7/8/95	Burner 4-D diffuser and diffuser hoses were replaced.	APA
7/8/95	Burner 3-C diffuser hoses were replaced.	APA
7/3/95	An air leak was repaired on the windbox west casing.	APA
7/8/95	Some cracks at the bottom burner pocket in corners A & B were repaired.	APA
7/6/95	Damaged fuel nozzles were repaired.	APA
7/3/95	An air leak was repaired in the duct (ah's-windbox) at corner C-D.	APA
6/28/95	Fuel air and auxiliary dampers positioners were replaced.	TPA
	Induced Draft Fans	
7/3/95	The prot. in the IDF 2-1 inlet vanes leading edge and welding area was eroded & repaired.	APA
7/3/95	The inlet control vanes linkage system of the IDF 2-2 was replaced.	APA
7/3/95	The inlet control vanes linkage system of the IDF 2-1 was replaced.	APA
7/3/95	The protection in the IDF 2-2 inlet vanes leading edge was eroded and repaired.	APA
7/3/95	The IDF 2-2 fan wheel was repaired.	APA
7/3/95	All access doors and drain pipes gaskets were replaced in the IDF 2-1.	APA
7/3/95	Nine stiffeners in the right side pocket of the IDF 2-2 were replaced.	APA
7/3/95	Nine stiffeners in the left side pocket of the IDF 2-2 were replaced.	APA

Dete		
Date	Induced Draft Fans (cont.)	SECTION
7/3/95	Six stiffeners in the right side pocket of the IDF 2-1 were replaced.	APA
7/3/95	Nine stiffeners in the left side pocket of the IDF 2-1 were replaced.	APA
7/5/95	Inlet control vanes and outlet dampers drives were repaired in the IDF's 2-1 & 2-2.	TPA
7/3/95	Main access doors were repaired (insulation and cracks) in the IDF 2-1.	APA
7/3/95	All access doors and drain pipes gaskets were replaced in the IDF 2-2.	APA
7/3/95	The base casting collar in the right side of the IDF 2-2 inlet box was replaced.	APA
6/28/95	The electronic limit switches for the IDF's 2-1 & 2-2 outlet dampers were replaced.	TEA
7/3/95	Main access doors were repaired (insulation and cracks) in the IDF 2-2.	APA
6/29/95	IDF's 2-1 & 2-2 pockets and fans were washed and cleaned.	TERR/JR
	Forced Draft Fans	
7/3/95	All FDF 2-2 access doors gaskets were replaced.	APA
7/5/95	All FDF 2-1 access doors gaskets were replaced.	APA
7/5/95	An outlet dampers loose leaf on the FDF 2-1 was repaired.	APA
6/29/95	FDF's 2-1 & 2-2 pockets and fans were washed and cleaned.	TERR
7/5/95	Inlet control vanes and outlet dampers drives were repaired in the FDF's 2-1 & 2-2.	TPA
	Gas Recirculation Fan	
7/3/95	New gaskets were replaced in all access doors of the GRF.	APA
7/3/95	An outlet damper's loose leaf on the GRF's left side was repaired (was bent).	APA
6/29/95	GRF pockets and fan were washed and cleaned.	TERR
7/3/95	GRF inlets vanes were repaired.	APA
	Steam Coils	
7/9/95	An Eckardt positioner was installed in steam coils 2-1 & 2-2 temp. control valves.	TPA
7/7/95	Steam coils 2-1 & 2-2 panels were replaced by larger ones to increase the outlet temp.	Maxon
6/24/95	A piece of piping of the return lines from the steam coil 2-2 to the cond. was replaced.	TMA
	Boiler Ductwork	
7/5/95	Some observation ports packings were replaced.	APA
7/3/95	Expansion joint A-7 (2-2 side) - was repaired.	APA
7/3/95	Expansion joint A-7 (2-1 side) - cracks were repaired.	APA
7/3/95	Expansion joint A-8 (2-2 side) - cracks were repaired.	APA
7/3/95	Expansion joint G-1 (2-2 side) - cracks were repaired.	APA
7/3/95	Expansion joint G-1 (2-1 side) - cracks were repaired.	APA
7/3/95	Expansion joint G-2 (2-2 side) - cracks were repaired.	APA
7/3/95	Expansion joint G-2 (2-1 side) - cracks were repaired.	APA
<i>/</i> 1/1/95	Expansion joint G-7 (2-2 side) - cracks were repaired.	APA

Date	Instrumentation Components	SECTION
6/29/95	AH's 2-1 & 2-2 thermocouple cables were replaced at the gas outlets.	TIEA
7/1/95	Two additional oxygen cells were installed (one on each economizer duct).	APA/TIE/
7/1/95	Opacity detector 2-2 was replaced.	TIEA
	Sootblowing System	
7/1/95	Sootblower system's pressure switch was replaced	TEA
	Boiler Components Washing	
6/27/95	Air and gas hoppers were washed and cleaned.	Ind/JR Ins
6/25/95	Economizer ducts and hoppers were washed and cleaned.	Ind/JR Ins
6/27/95	Air and gas ducts were washed and cleaned.	Ind/JR Ins
6/28/95	Stacks 2-1 and 2-2 were washed and cleaned.	Ind/JR Ins
6/28/95	Reheater elements at front side section were washed.	Induchem
6/28/95	Superheater elements at front side section were washed.	Induchem
7/6/95	Reheater and economizer elements at rear side section were washed.	Induchem
6/28/95	Windboxes east and west were washed and cleaned.	Ind/JR Ins
6/28/95	Vestibule sections were washed and cleaned.	Ind/JR Ins
6/29/95	Ducts from IDF's to stacks were washed and cleaned.	Ind/JR Ins
6/29/95	Ducts from AH's to IDF's were washed and cleaned.	Ind/JR Ins
6/29/95	Ducts from economizer to AH's were washed and cleaned.	Ind/JR Ins
7/4/95	Furnace waterwall tubes were washed or hydroblasted partially.	Induchem
6/28/95	Superheater's platen section was washed.	Induchem
7/5/95	Boiler's bottom was washed and cleaned.	Ind/JR Ins
	Steam Control Components	
6/30/95	The atomizing steam control valve's open/close control I/P was replaced (Rosemount).	TIEA

DATE	Feedwater Heaters	OFOTION
7/1/95	6th extraction's NRV (ECV-6) was repacked and repaired.	SECTION
6/30/95	Several leaking tubes in high pressure heaters #6 were plugged and hydrotested.	TMA
6/30/95	Water seals were repaired in Hester #71- weter blugged and hydrotested.	Senior
6/27/95	Water seals were repaired in Heater #7's water outlet isolating valve.	ENSYSA
0/2//95	7th extraction's NRV (ECV-7) was repacked, and the flange and valve leaks were repair	TMA
	Waterwall Tubes Integrity	
7/6/95	Hydrostatic test was performed in the boiler at 2500 psig.	OPE
6/30/95	A pinhole in the steam cooled wall over the economizer was repaired.	APA

VI. HARDWARE UPGRADE PROGRAM - WORKS NOT PERFORMED

The following items were determined to be installed, repaired or replaced in the Inspection and Analysis Program of the EPA-PREPA Consent Decree, but for several reasons, they could not be accomplished in the Unit #2 Environmental Outage of 1995. The items and the reasons are described as follows:

- 1. The cold baskets in both air preheaters were found during an outage inspection with little corrosion starting to show. These baskets were installed in 1994, and they had an enamel coating as a new design feature. The baskets integrity was complete, so it was determined that they could last for several years.
- 2. The viscometer was found giving inaccurate readings after an outage inspection. The viscometer was recommended to be replaced, but this could not be done due to the lack of a spare viscometer unit in the Plant's warehouse.
- 3. The rotor post seals in air preheater 2-1 were found with little erosion signs during an inspection. The seals integrity was complete, so it was determined that they could last until the next outage.
- 4. The air preheater 2-1 support bearing lube oil temperature switch could not be replaced due to the lack of time scheduled. This one will be replaced in the next unit shutdown.
- 5. Both air preheaters lower washing device elements were previously eliminated. The Boilers Maintenance Section recommended the installation of the element back since this will help wash the cold side baskets better. This was not performed due to the lack of scheduled time available. Since this does not affect the visible emissions performance, it will possibly be performed in the next extended outage.

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Puerto Rico Electric Power Authority Electric System Directorate San Juan Steam Plant



Inspection Analysis and Hardware Upgrade Program

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Puerto Rico Electric Power Authority San Juan Power Plant Division

Inspection & Analysis and Hardware Upgrade Programs

Report Certification by Electric System Director

In my capacity as the Electrical System Director of PREPA, I hereby certify, under penalty of law, that the information contained in or accompanying this submission was prepared by qualified personnel who properly gathered and evaluated the information submitted. I further certify, based on a reasonable inquiry of the person or persons responsible for gathering such information, that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

To the best of my knowledge and belief, the Inspection and Analysis Program has been completed in accordance with Section V of the Consent Decree.

To the best of my knowledge and belief, the Hardware Upgrade Program has been completed in accordance with the requirements of Section V of the Consent Decree.

Roberto A. Volckers Electric System Director

Date

Puerto Rico Electric Power Authority San Juan Power Plant Division

Inspection and Analisys and Hardware Upgrade Programs

Report Certification by Power Plant Manager

I certify, to the best of my knowledge and belief, that the information contained in or accompanying this submission was prepared under my supervision by qualified personnel who properly gathered and evaluated the information contained in the submission. I further certify that I have reviewed the information submitted and, to the best of my knowledge and belief, it is true, accurate, and complete.

2/17/99

Edgardo Ramírez Batista

San Juan Power Plant Division Manager

Date

Introduction

This summary report is submitted to the Environmental Protection Agency (EPA) by the Puerto Rico Electric Power Authority (PREPA) - San Juan Steam Power Plant Division, in order to comply with the requirements established in Section V of the Consent Decree, under both the Inspection and Analysis Program and Hardware Upgrade Program.

A list of the equipment components that were inspected and analyzed prior and during the Environmental outages of the generating units of the San Juan Steam Plant Division is included and detailed. The outages ranged from August 1996 to May 1997 and are detailed in each section. These components were repaired, replaced or installed following the results or conditions found on each inspection. This report includes the deficiencies discovered and a synopsis of the steps necessary to correct such deficiencies.

A list of the hardware components that were installed, replaced or repaired during the environmental outage is included and detailed. These components were either repaired, replaced or installed due to the Inspection and Analysis Program activities of the Section V of the Consent Decree between EPA and PREPA. This report details the activities performed and the section or contractor responsible for each activity. Also included are those hardware components determined to be deficient but were not installed, repaired, and/or replaced and the reason therof.

The Hardware Upgrade Program summary report was consolidated with the Inspection and Analysis Program summary report, since both programs were implemented at the same time for the generating units fo San Juan Steam Plant following the requirements under Section B.3.c.(4) and B.4.d.(4) of the Consent Decree's Air Compliance Attachment.

Puerto Rico Electric Power Authority San Juan Steam Plant Inspection and Analysis Program

San Juan Steam Plant Unit 7 was out of service from November 18 to December 15, 1996. During the outage the following equipment was repaired, installed or replaced in order to insure the unit's environmental compliance.

I. Fuel Oil Handling

1

Fuel Oil Pump

- Gaskets of compartment doors were replaced and area was cleaned.
- 2) The pressure switch used for the auto start of Bunker "C" oil pumps was replaced by a new one that contains no mercury. It was inspected and calibrated to close at 220 psig.
- 3) The Bunker "C"oil recirculating valve and its pressure control was calibrated.

Fuel Oil Heaters

- Packing was replaced in all valves as necessary.
- 2) Element number one was removed. It will be reinstalled in a later outage.

Burner

- New tips and plugs were installed in all burners.
- All valves were inspected to prevent leakages thru packing.
- All the burners limit switches were properly checked and repaired.
- 4) All the burner sight glasses and observation ports were installed new.
- 5) General maintenance was done on all the oil guns and air slides.

Burners Isolation Valves

 All the limit switches and solenoids were inspected and the bad ones were changed by new ones in the trifecta valves.

TH

Viscosimeter

1) The Norcross MP90 viscosimeter was cleaned, calibrated and tested.

II. Combustion Controls

Alarms Panels

- 1) Seven-alarm circuits' boards were replaced.
- 2) Flasher board of panel number two and four were replaced.

Atomizing Steam Controls

- 1) Calibrated the transmitters for the atomizing steam press 0-200 psig.
- 2) Inspected and verified the atomizing steam press I/P's calibration.
- 3) The atomizing steam control valve was inspected and calibrated.

Combustion Control System

- Calibrated the transmitter for the fuel oil pressure.
- Oil regulating valves, oil trip valve, boiler header and burner header recirculating valves were inspected and calibrated.

III. Combustion Air

Fans

- 1) New Filters were installed in both scanner blower fans.
- 2) The motor of the scanner blower fan 7-2 was repaired.

- 3) Gas Recirculating fan was inspected, balanced and fan bearing was inspected.
- 4) Both induced draft fans were inspected, balanced and fan bearing was inspected.
- 5) New control vane pistons were installed and calibrated in the forced draft and gas recirculating fan's control vane and shut off damper.

Duct and Furnace Casing Integrity

1) Overlap weld was done in the gas casing 7-1 and 7-2 before the air preheaters.

Wash Steam Radiators

Steam coils were water washed (high pressure).

Steam Coils

Steam coils were water washed (high pressure).

Air Preheater

- 1) Sensing lines were inspected and check for deposits of soot in the pipe.
- 2) All pressure transmitters have been inspected and calibrated.
- 3) The air heater 7-2 was balanced.
- 4) The air turbine of the rotor drive 7-1 was repaired.
- 5) All the cold baskets in the air heater 7-1 and three (3) of the air heater 7-2 removed. They will be installed new in a future outage.
- 6) Radial seal cold sides were replaced in air heater 7-1 and 7-2.
- 7) All the air side by pass seals in air heater 7-2 were replaced.

IV. Flue Gas Handling & Measurement

Soot Blowers

- 1) Mechanical inspection, maintenance and calibration were done as needed.
- 2) The following soot blowers parts were replaced;
 - IK-2 Lance, carriage
 - IK-14 Electrical motor, transmission
 - IK-19 Electrical motor, transmission
 - IK-20 Electrical motor, transmission, square lance
- 3) Boiler soot blowers travel was tested.
- Soot blower steam regulating valve was inspected and calibrated.
- 5) Calibration of steam pressure was made to each soot blower.
- 6) The soot blower pressure control system was cleaned, inspected and calibrated.
- 7) New packings were installed in all soot blowers.
- 8) New economizer soot blowers were installed and coded as 18, 19 and 19A. They were calibrated to 125 psig of blowing pressure.

Oxygen

The performance of the oxygen probe was properly checked and was necessary to replace the cell sensor of the 7-1 probe.

Opacity

- 1) On both opacimeters:
 - * The air filter was replaced.
 - * Existing light ducts were cleaned.

Boiler Wash

- 1) The following areas were washed and cleaned by Induchem and J.R. Insulation companies:
 - * Air preheater
 - * Bottom furnace
 - Gas and air ducts
 - * Induced ducts
 - * High temperature superheater, low temperature superheater, reheater and economizer elements.
 - Vestibule, penthouse and doghouse.

V. Complete Steam Cycle

Pressure Parts

- 1) An initial hydrostatic test was done on December 5, 1996 finding the following leakages;
 - * Water wall, front side, northeast corner, vestibule area. It was repaired installing a new tube.
 - * Water wall, rear side, at the burner number 8, a bend in the windbox side. It was repaired with an overlap weld.
 - * Water wall, right side, near the economizer arc, tube number three from rear to front wall. It was repaired with an overlap weld.
 - * Water wall, right side, over the furnace door. It was repaired with an overlap weld.

Feedwater Heaters

- 1) The feedwater heater number six was tested. Three tubes were found broken and were repaired.
- 2) Inlet and outlet lines were cut and plugged from feedwater heater number five to remove it and install a new one in the future.

HARDWARE UPGRADE

November,18 to December 15,1996

	1	T	T December 15,1996
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
I- FUEL OIL HANLING			
A- FUEL OIL QUALITY			1
B - FUEL OIL PUMPS			
INSP. REP.& TEST AUTO START BKR	PLEL	29-Nov	Tested O.K.
INSP TEST AUTO START PRESS.SWITCH	PLEL	29-Nov	Tested O.K
INSPECT OR REPAIR PUMPS	PLME	23-Nov	Inspected, Calibrated & replaced Inspected & verified
INSPECT AND CLEAR STRAINER	PLME	23-Nov	Removed and cleaned
INSP.&MAINT.PUMP ISOLATION VALVES	PLME	23-Nov	Verified & maintenance
INSP.&MAINT OTHER VALVE PUMP SEC	PLME	23-Nov	Lubricated & and retighten
INSP.REPAIR FUEL OIL REC.VALVES	PLIN	21-Nov.	Inspected and Calibrated
C FUEL OIL LIEATERS			The same same same same same same same sam
C- FUEL OIL HEATERS			
CALIBRATED I/P FUEL HEATER VALVE	DUE		
INSP.TEST FUEL OIL TEMP. THERMOCO	PLIE PLIE	18-Nov	Test and verified
INSP.TEST TEMP.FUEL OIL TRIP ALARM	PLIE	18-Nov	Inspected physically
CALIBRATED I/P FUEL REC. VALVE	PLIE	18-Nov	Performed maintenance and test
INSP. OR REPAIR HEATING ELEMENTS	PLME	18-Nov 23-Nov	Tested and verified
INSP.OR REPAIR STEAM TRAP	PLME	23-Nov	Inspected physically
REP. LEAK PIPING ASSO. WITH HEATER	PLME	23-Nov	Insp. and maint, was made
INSP.OR REP. STEAM REG. VALVE	PLIN	21-Nov	New element was installed
INSP.OR CHANGE THERM. AND MANO	PLIN	21-Nov	Inspected and Calibrated Inspected and calibrated
INSP.OR REP. HEATER RELIEF VALVE	PLIN		Next program outage
			. rext program outage
D- VISCOSIMETER			
INSP: & CLEAR TEST VISCOSIMETER	PLIE	18-Nov	Cleaned and tested
INSP. OR REP. EQUIPMENT FOR	PLIN	23-Nov	New equipment
PACKING LEAK			
E- BURNER			
CLEAN OR REPLACEMENT BURNERS	APBO	21-Nov	Inspected ,installed new.
SIGHT GLASS		[

HARDWARE UPGRADE

November,18 to december 15,1996

ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
- BURNER		DAIL	CONDITIONS
	1		1
CHECK OR CHANGE NOZZLE ASSEMBLY	APBO	21-Nov	Checked & repaired
NSP. GUN INSERT SOLENOIDE	PLIE	18-Nov	Checked & Inspected
NSP.REPAIR ALL BURNERS	PLME	23-Nov	Inspected & damage parts were
DUDUE			replaced
- BURNER ISOLATION VALVE			-
NSP.LIMIT SWITCH & SOLENOIDE	PLIE	40.11	
NSP. OR REPAIR OIL /STEAM LINE	PLME	18-Nov	Inspected and tested
& RACK VALVES	PLIVIE	23-Nov	Inspected and maintenance wa
NSP. OR REPAIR TRIFECTAS VALVES	PLIN	04.11	made
TOTAL PART ITAL ESTAS VALVES	PLIN	21-Nov	Inspected, It was installed
NSP. & CHANGE THERMOMETER	PLIN	04.11	on outage sept to june 1993
MANOMETERS	PLIN	21-Nov	Inspected and Calibrated new
- BURNER MANAGEMENT SYSTEM			
NSP. ALL INDICATION LIGHT ON BMS	PLIE	18-Nov	Inspected and test
NSP. & TEST ALL IGNITER	PLIE	18-Nov	Inspected and tested
NSP.LIMIT SWITCH TRIFECTAS,GUN	PLIE	18-Nov	Checked & Inspected
INSERT			Modification was made in sept.
			1993 to june 1994
NSP. OR REPAIR SCANNERS	PLIE		Next program outage
NSP.& TEST ALL MFT SIGNAL	PLIE	18-Nov	Calibrated and tested
			- and tested
I-COMBUSTION CONTROL			
- ATOMIZING STEAM CONTROLS			
ISP.& CALIBRATE ATOM.STEAM PRESS.	PLIE	18-Nov	Calibrated and Inspected
ISP.OR CALIBRATED I/P ATOM PRESS.	PLIE	18-Nov	Inspected and verified calibration
ISP.&CALIB.ATOM STEAM PRESS	PLIE	18-Nov	Performed maintenance & test
ont) ALARM & TRIP.			The state of the s
ISP. & TEST ATOM STEAM THERMOCOU	PLIE	18-Nov	Calibrated and Inspected
ISP. OR CALIB. ATOM STEAM	PLIE	18-Nov	Inspected & calibrated
EMP REGULATOR			
ISP. OR REP. ATOMIZING STEAM REG	PLIN	20-Nov	Inspected and Calibrated

HARDWARE UPGRADE

November,18 to December 15,1996

ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
B - COMBUSTION CONTROL SYSTEM			COMBITIONS
INSP.& CALIB. FUEL OIL SUPPLY	PLIE	18-Nov	Inspected & calibrated
PRESS TRANSMITER			
CALIB. LOW OIL PRESS ALARM AND TRIP		18-Nov	Next program outage
NSP.& CALIB. I/P FUEL OIL PRESS REG	PLIE	18-Nov	Inspected & checked
TEST ALL MEASURE SIGNAL ON I/A	PLIE	18-Nov	Checked and Proved
CONTROL LOOP			
FEST SOLENOID EQUIPMENT	PLIE	18-Nov	Tested
NSP. OR REPAIR PROPANE SYST.	PLIN	20-Nov	Inspected & Calibrated
& VENT. VALVE			- January Samplated
NSP. OR REPAIR OIL	PLIN	20-Nov	Inspected & no work required
RECIRCULATING VALVES			work required
INSP.& CHANGE MANOMETER	PLIN	20-Nov	Inspected and Calibrated new
& THERMOMETERS			equipment
C - ALARM PANEL			
NSP.OR REPAIR EQUIPMENT ALARM	PLEL	3-Dec	Inspected & repaired some
			equipment
II-COMBUSTION AIR			
A- WINBOX			
A-I DIFFUSER/ SWIRLERS			
NSP.OR CALIB.SWIRLES/DIFFUSER	APBO	21-Nov	Inspected ,No work required
GUN DISTANCE			mepeeted , No work required
NSP. OR REPAIR SWIRLES/DIFFUSER	APBO	21-Nov	Inspected ,No work required
GUN DISTANCE			mepedica , No work required
A-2 AIR SLIDES			
NSP.OR REPAIR AIR & GAS DAMPERS	APBO	21-Nov	Maintenance was given
NSP. OR REPAIR SOLENOID VALVES	PLIE		Inspected & fully funtional
NSP. & TEST PROXIMOTOR SWITCH	PLIE	18-Nov	Checked and tested
OSITION		101101	Checked and lested
NSP.& CLEAN FURNACE AND WIND	PLIN	20-Nov	Inspected and cleaned
BOX PRESS LINES		~0 14UV	mopected and cleaned
A-3 REGISTER			
A-4 DAMPERS			

HARDWARE UPGRADE

November,18 to december, 15,1996

	T	Novembe	er,18 to december. 15,1996
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
A-4 DAMPERS			
INSP. OR REP. AIR AND GAS DAMPER	APBO	1-Dec	Inspected no work required
A-5 DUCT AND FURNACE CASING INTEG	A		more reduired
INSP. OR REPAIR INNER & OUTER	APBO	1-Dec	Inspected overlap weld was
CASING			performed gas duct
A-6 TILTING MECHANISM			guo duoi
B - AIŖ PREHEATER			
INSPECT SOOTBLOWERS	APBO	20-Nov	Inspected no work required
INSP. OR REPAIR TURBINE AIR	APBO	20-Nov	Inspected no work required
DRIVER MOTOR			mispected no work required
INSP. OR REPAIR SECTOR PLATES	APBO	20-Nov	Inspected no work required
INSPECT & REPAIR ROTOR CASING	APBO	20-Nov	Inspected no work required
INSP. LUBRICATION SYSTEM	APBO	20-Nov	Inspected-Oil changed
INSP. AXIAL & CIRCUNFERENCIAL SEAL	APBO	20-Nov	Insp.by pass & radial seal repl.
NSP. OR REPAIR HEATING ELEMENTS	APBO	20-Nov	Cold basket need to be repaired
INSPECT DRAIN LINES	APBO	20-Nov	Inspected no work required
INSP.OR REPAIR WASHING DEVICE	APBO	20-Nov	Inspected-good operator cond.
NSP. OR REP. DIFFERENTIAL PRESS.	PLIE	18-Nov	Inspected & calibrated
NSP.& TEST TURBINE AIR SOLENOID	PLIE	18-Nov	Inspected and tested
& ALARM			mspecied and tested
NSP,OR REPAIR AIR/GAS THERMOCOU	PLIE	18-Nov	Inspected physically
NSPECT A.H. SENSING LINES, TRANSM.	PLIE	20-Nov	Inspected and checked
C- FANS			and checked
INSPECT OR REPAIR FDF	APAX		Next program outage
NSPECT OR REPAIR IDF	APAX	7-Dec	inspected & balanced
Non			, and a suit root
NSP.OR REPAIR BEARINGS	APAX	7-Dec	Inps. IDF 7-1 & 7-2
INSP. OR REPAIR GRF	APAX	20-Nov	Inspected tested, inst.new mtr.
NSP. & REPAIR SHUTT OFF DAMPER	APBO	20-Nov	Insp. No work required
NSPECT IDF & FDF MOTOR	PLEL	6-Dec	Insp.& electrical tested.
NSP.OR REP. CALB. OF SENSOR	PLIE		Inspected & electrical tested
VIBRATION IN ALL FAN			, sa sissificat tested
NSP. OR REPAIR SOLENOID & ALARM	PLIE	18-Nov	Inspected ok
NSP. & REPAIR I/P FOR EACH FAN	PLIE		Tested & verified

HARDWARE UPGRADE

November, 18 to DECEMBER 15, 1996

	T	November,18 to DECEMBER 15,1							
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS						
C- FAN (CONT.)			CONDITIONS						
INSP. OR REP. SCANNER FAN	PLME	22-Nov	l						
CHANGE OIL IN ALL BEARING FAN &	PLME	22-Nov	Insp.,maintenance were made						
OIL LEAKAGES	1 CIVIC	22-IVOV	Oil changes & leak were made						
TEST FAN ANTILOCK SYSTEM &	PLIE	20-Nov	language 1 a service						
PNEUMATIC VALVE CONTROL	1 1.11	20-1107	Inspected & tested						
INSP. OR REP. MANOMETER AND	PLIN		Northean						
THERMOMETER	1 1114		Next program outage						
D - STEAM COIL									
WASH STEAM RADIATOR	PLBG	29-Nov	Water washed /high						
NSP. OR REPAIR I/P CONTROL VALVE	PLIE	20-Nov	Water washed (high press.) Insp., calibrated & checked						
INSPECT STEAM RADIATOR	PLME	22-Nov	Inspested & checked						
INSP. MANOMETER AND THERMOMETER	PLIN		Next program outage						
INSP. OR REPAIR REGULATOR POS.	PLIN	20-Nov	Inspected and calibrated						
4			mopeoted and camprated						
V- FLUE GAS HANDLING AND MEASU.									
A- DUCTWORK									
NSP. OR REP. AIR & GAS DUCTS	APBO	20-Nov	Inspected, no work required						
NSP.OR REPAIR BOILER STRUCTURE	APBO	20-Nov	Insp.,Insulation replacement						
3- INSTRUMENTATION			map , modiation replacement						
3-1 OXYGEN									
NSPECT OR REPAIR 02 ANALIZERS	PLIE	18-Nov	Inspected						
0.00									
3-2 OPACITY									
CLEAN LIGHT DUCT IN BOTH OPACITY	PLIE	18-Nov	Performed maintenance						
CHECK CALIBRATION OF BOTH SMOKE	PLIE	18-Nov	Performed calibration						
DETECTOR									
NSP. RECORDER OPERATION & CONF.	PLIE	18-Nov	Inspected, no work required						
EST ALARM OPERATOR	PLIE	18-Nov	Tested o.k.						
3-3 TEMPERATURE									
NSPECT OR REPAIR MISCELANEOUS	PLIE	18-Nov	All thermocouple tested -						
			are in good working order						

HARDWARE UPGRADE

November, 18 to december 15, 1996

	T	Novembe	er,18 to december 15,1996
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
B-4 DRAFT		27112	CONDITIONS
INSP. OR REP. SENSING LINES	PLIN	22-Nov	Inner and the state of the stat
C- SOOTBLOWER	1 2114	22-IVOV	Inspected. ok.
INSPECT OR REP. SOOT BLOWERS	APBO	20-Nov	Inon 9
ASSEMBLY	711 50	20-1100	Insp. & replaced part sootblowers
INSP. & MAINTENANCE LIMIT SWITCH	PLEL	25-Nov	Clooped insert to
INSP. SOOTBLOWER ELECTRIC PANEL	PLEL	25-Nov	Cleaned ,inspected & tested
INSPECT RETRACT SOOTBLOWER -	PLME	22-Nov	Inspected & tested
PACKING		LL-140V	Inspection and maintenance
INPS, OR REP. SOOTBLOWER STEAM	PLIN	22-Nov	all component were made
REG. VAL. & PRESS. CONTROL	1	ZZ-INOV	Inspected & calibrated
INSPECT OR REPAIR THERMO DRAIN -	PLIN	22-Nov	Inchested 9 slaves
VALVES		ZZ-140V	Inspected & cleaned
D- BOILER WASH			·
WASH STACK AND AIR HEATER	APBO	.19-Nov	Washed & cleaned
WASH PEN-HOUSE & DOG HOUSE DUCTS	APBO	19-Nov	Washed & cleaned
CLEAN BOTTOM FURNACE	APBO	19-Nov	Washed & cleaned Washed & cleaned
WASH & CLEAN GAS CONDUCTS	APBO	19-Nov	Washed & cleaned Washed & cleaned
WASH INDUCED FANS	APBO	19-Nov	Washed Washed .
WASH SUPERHEATER & REHEATER -	APBO	19-Nov	Washed (Hydroblasting)
TUBES		10 1101	washed (Hydrobiasting)
WASH LOW TEMP. SH & ECONOMIZER	APBO	19-Nov	Washed (Hydroblasting)
CLEAN AIR HOPER	APBO	19-Nov	Cleaned
-			Oldaried
V - COMPLETE STEAM CYCLE			·
A- PRESSURE PARTS			
CHANGE OR REP. BROKEN TUBES	APBO	5-Dec	Repaired waterwall leakage
			waterwan leakage
INITIAL AIR TEST	APBO	5-Dec	Tested
INITIAL HIDROSTATIC TEST	APBO	5-Dec	Tested
INSPECT & REPAIR PRIMARY &	APBO	5-Dec	Inspected o.k.
& SECONDARY S.H.			
INSPECT REHEATER	APBO	5-Dec	Inspected o.k.

HARDWARE UPGRADE

November,18 to December 15,1996

	T	Novembe	r,18 to December 15,1996
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
B- FEED WATER HEATER INSP. OR REP. ALARMS INSPECT HYDRASTEP	PLEL PLIE	4-Dec	Tested & verified Next program outage
INSPECT THERMOCOUPLE CALIBRATE I/P	PLIE		Next program outage
INSP. & CALIB. I/P DEARATOR LEVEL- HOTWELL LEVEL	PLIE	18-Nov	Tested & verified
INSP. OR REPAIR SIDE GLASS LEVEL INSP. & REPAIR HEATER IF NECESSARY	PLME PLME	22-Nov 22-Nov	Insp. & maintenance were made Cut off schedule to be replaced.
MAINT. ISOLATION VALVES & OTHER - VALVES ASS.	PLME		Next program outage
INSP. REG. VAL. AND CONTROLS INSPECT NON-RETURN VALVES TRIP - MECHANISM	PLIN PLIN	22-Nov 22-Nov	Insp., cleaned & calibrated Next program outage
INSP. MANOMETER THERMOMETER C- WATER- WALL INTEGRITY	PLIN		Next program outage
INSPECT ECONOMIZER INSPECT DRUM & HEADER INSPECT DOG HOUSE	APBO APBO APBO	4-Dec 4-Dec 4-Dec	Inspected , no work required Inspected , no work required Inspected, no work required.
VI- CONDENSER WORK CLEANING CONDENSER TUBES URANINE TEST & BROKEN CAPS	PLBG PLBG	22-Nov 22-Nov	Cleaned -Hydroblasted Tested -one tube found bad
REPAIR HOLES AND CONDENSER INFILTRATIONS	PLME	28-Nov	& was plugged Repaired leak and infiltrations

Activity ID	Activity description	%	RE) DUI	N 3393000000	Early finish	8 25	DE 2 8 1
EC							
EG-01	FUEL OIL HANDLING						İ
	FUEL OIL QUALITY			· · · · · · · · · · · · · · · · · · ·			
	FUEL OIL PUMPS						
E02-08	INSP., REP. & TEST AUTO START F.O. P. BKR						
E02-00	INSP., REP. & TEST AUTO START F. U. P. BKK	0	8	19NOV96 08:00	19NOV96 15:59		
114-42	INSP & CALIB ATOM STEAM TEMP ALARM	0	14	20NOV96 08:00	21NOV96 13:59	150	
144-10	INSP TEST AUTO STAR PRESSURE SWITCH	0	21	21NOV96 14:00	25NOV96 10:59		
M02-08	INSP. & MAINTENANCE OTHER VALVE PUMP SECTION	0	8	25NOV96 11:00	26NOV96 10:59	- AST	
M02-06	INSP. & MAINT.PUMP ISOLATION VALVES,OTHERS VALVE	0	8	26NOV96 11:00	27NOV96 10:59	8	
P02-06	INSP. REPAIR FUEL OIL RECIRCULATION VAL. & CONT	0		27NOV96 11:00	30NOV96 15:59	25	N .
M02-02	INSPECT OR REPAIR PUMPS	0		02DEC96 08:00	04DEC96 12:59		45 87
M02-04	INSPECT AND CLEAR STRAINER	0	8	04DEC96 13:00	05DEC96 12:59		AST
EC-01-C							
152-02	CALIBRATE VP FUEL HEATER VALVE	0	8	19NOV96 08:00	19NOV96 15:59	7	
152-04	INSP. TEST FUEL OIL TEM. THERMOCOPLE & CONTROL	0	8	20NOV96 08:00	20NOV96 15:59	M	
152-06	INSP. TEST TEMP. FUEL OIL TRIP. & ALARM	٥		21NOV96 08:00	21NOV96 15:59	M	
M04-02	INSPECT OR REPAIR HEATING ELEMENTS	0		22NOV96 08:00	23NOV96 13:59	AST	
M04-06	INSP. OR REPAIR STEAM TRAPS	0		23NOV96 14:00	27NOV96 10:59		
M54-04	REPAIR LEAK PIPING ASSOCIATE WITH HEATER	0		27NOV96 11:00	29NOV96 10:59	AND	
P04-02	CALIBRATE I/P FUEL RECIRCULATION VALVE	0		29NOV96 11:00	30NOV96 10:59	. &	
P04-04	INSP. OR CHANGE THERMOMETERS & MANOMETERS	0		30NOV96 11:00	03DEC96 10:59		
P10-06	INSP. OR REP. STEAM REGULATION VALVE & CONTROL	0		03DEC96 11:00	04DEC96 10:59		<i>S</i> 7
	INSP. OR REPAIR HEATER RELIEF VALVE	0		04DEC96 11:00	05DEC96 10:59		₽.
************	VISCOMETER						
	INSP. & CLEAR TEST VISCOSIMETER	0		05DEC96 11:00	06DEC96 10:59		<i>S</i> 7
	INSP. OR REP. EQUIPMENT FOR PACKING LEAK	0	-	06DEC96 11:00	07DEC96 10:59		Z
**********	BURNER						
308-02	CLEAN OR REPLACEMENT BURNERS SIGHT GLASS	0	Access to the last	19NOV96 08:00	21NOV96 15:59	367	
Sheet 1900/96 depail Freezh 600/EC36 72/06 to 100/07/16 de 10 02/6/E/7 74/08	AUTORIDAD ENERGIA EL				Seat 1 of 7		
	ENVIRONMENTAL OUTAGE IN						

Ю	/ Activity description	74.	RE				DE DE
M08-04	INSP. REPAIR ALL BURNERS	-	DU	R stari 4 22NOV96	finish 25NOV98	8 25	2 9 1
8		-	1	08:00	15:59	S ASSES	
G08-02	WASH BURNERS FLOORS	0	2	8 26NOV96	100,10000	3	NZ.
M08-02	CHECK OR CHANGE NOZZLE ASSEMBLY	+-	_	08:00	11:59		
	CHECK ON CHANGE HOLLLE ASSEMBLY	0		8 30NOV96 12:00	02DEC96		3
EC-01-	F BURNER INSOLATION VALVE						
124-06	INSP. LIMIT SWITCH & SOLENOIDE	0	T	8 02DEC96	03DEC96		A7
1142.24				12:00	11:59		-
M10-04	INSP. OR REPAIR OIL / STEAM LINES & RACK VALVE	0		8 03DEC96 12:00			S
P08-02	INSP. OR REPAIR TRIFECTAS VALVES	10	2	12.00 4 04DEC96	11:59 07DEC96	_	
		-	2.	12:00	11:59		2307
P08-04	INSPECT & CHANGE THERMOMETER & MANOMETERS	0	16	07DEC96	08DEC96	1	87
EC-01-(1		12:00	11:59		
24-04	BURNER MANAGEMENT SYSTEM INSPECT ALL INDICATION LIGHT ON BMS	-					
124-04	INSPECT ALL INDICATION LIGHT ON BMS	0	32	22NOV96 08:00	26NOV96 15:59	47	
124-08	INSP. & TEST ALL IGNITERS	0	24	27NOV96	30NOV96		,
			_	08:00	15:59	234	
124-16	INSPECT OR REPAIR SCANNERS	0	24	02DEC96	04DEC96	1 .	ASS/7
124-18	INSPECT & TEST ALL MFT SIGNAL FROM DEVICES	0		08:00	15:59		
	THE TOTAL PROPERTY OF THE PROP	0	۰	05DEC96 08:00	05DEC96 15:59		A
EC-02	COMBUSTION CONTROL						
EC-02-A	ATOMIZING STEAM CONTROLS					a l	
114-12	INSPECT & CALIBRATE ATOM, STEAM PRESS, TX.	0	8	19NOV96	19NOV96	7	
114-36	INOD & CALID ATOM OTHER STATES			08:00	15:59		
114-26	INSP & CALIB. ATOM STEAM PRESS ALARM & TRIP.	0	24	20NOV96 08:00	22NOV96 15:59	AN	
114-38	INCO & TEAT ATOM ATTAIN TO THE	1			15.59	1 !	
	INSP & TEST ATOM STEAM TERMOCOUPLE	0	24	23NOV96	SENOVOE	ANY	
		0	24	23NOV96 08:00	26NOV96 15:59	A987	
114-34	INSPECT OR CALIBRATE UP ATOM PRESS.	0		08:00 27NOV96	15:59 27NOV96	ANN	
	INSPECT OR CALIBRATE UP ATOM PRESS. REGULATOR	0	8	08:00 27NOV96 08:00	15:59 27NOV96 15:59	Ø	
	INSPECT OR CALIBRATE UP ATOM PRESS.		8	08:00 27NOV96	15:59 27NOV96 15:59 29NOV96		14
14-40	INSPECT OR CALIBRATE UP ATOM PRESS. REGULATOR	0	8	08:00 27NOV96 08:00 29NOV96	15:59 27NOV96 15:59	Z Z	14
14-40 P14-10	INSPECT OR CALIBRATE UP ATOM PRESS. REGULATOR INSPECT OR CALIB. ATOM STEAM TEMP REGULATOR INSP. OR REPAIR ATOMIZING STEAM REGULATOR	0	8	08:00 27NOV96 08:00 29NOV96 08:00	15:59 27NOV96 15:59 29NOV96 15:59	Ø	1.
14-40 P14-10 EC-02-B	INSPECT OR CALIBRATE UP ATOM PRESS. REGULATOR INSPECT OR CALIB. ATOM STEAM TEMP REGULATOR INSP. OR REPAIR ATOMIZING STEAM REGULATOR COMBUSTION CONTROL SYSTEM	0 0	8	08:00 27NOV96 08:00 29NOV96 08:00 30NOV96	15:59 27NOV96 15:59 29NOV96 15:59 30NOV96	Z Z	10
114-40 P14-10 EC-02-B	INSPECT OR CALIBRATE UP ATOM PRESS. REGULATOR INSPECT OR CALIB. ATOM STEAM TEMP REGULATOR INSP. OR REPAIR ATOMIZING STEAM REGULATOR	0 0	8 8	08:00 27NOV96 08:00 29NOV96 08:00 30NOV96 08:00	15:59 27NOV96 15:59 29NOV96 15:59 30NOV96 15:59	Z Z	
14-40 P14-10 EC-02-B 16-02	INSPECT OR CALIBRATE UP ATOM PRESS. REGULATOR INSPECT OR CALIB. ATOM STEAM TEMP REGULATOR INSP. OR REPAIR ATOMIZING STEAM REGULATOR COMBUSTION CONTROL SYSTEM INSP. & CALIB. FUEL OIL SUPPLY PRESS TRANSMITER	0 0	8 8	08:00 27NOV96 08:00 29NOV96 08:00 30NOV96 08:00	15:59 27NOV96 15:59 29NOV96 15:59 30NOV96 15:59 19NOV96 15:59	2	
114-40 P14-10 EC-02-B 16-02	INSPECT OR CALIBRATE UP ATOM PRESS. REGULATOR INSPECT OR CALIB. ATOM STEAM TEMP REGULATOR INSP. OR REPAIR ATOMIZING STEAM REGULATOR COMBUSTION CONTROL SYSTEM	0 0	8 8 8 21	08:00 27NOV96 08:00 29NOV96 08:00 30NOV96 08:00	15:59 27NOV96 15:59 29NOV96 15:59 30NOV96 15:59 19NOV96 15:59	Z Z	13.
P14-10 P14-10 EC-02-B 16-02	INSPECT OR CALIBRATE UP ATOM PRESS. REGULATOR INSPECT OR CALIB. ATOM STEAM TEMP REGULATOR INSP. OR REPAIR ATOMIZING STEAM REGULATOR COMBUSTION CONTROL SYSTEM INSP. & CALIB. FUEL OIL SUPPLY PRESS TRANSMITER	0 0	8 8 21	08:00 27NOV96 08:00 29NOV96 08:00 30NOV96 08:00 19NOV96 08:00	15:59 27NOV96 15:59 29NOV96 15:59 30NOV96 15:59 19NOV96 15:59 22NOV96	2	
P14-10 P14-10 EC-02-B 16-02 16-06	INSPECT OR CALIBRATE UP ATOM PRESS. REGULATOR INSPECT OR CALIB. ATOM STEAM TEMP REGULATOR INSP. OR REPAIR ATOMIZING STEAM REGULATOR COMBUSTION CONTROL SYSTEM INSP. & CALIB. FUEL OIL SUPPLY PRESS TRANSMITER INSP. & CALIBRATE UP FUEL OIL PRESS REGULATOR TEST ALL MEASURE SIGNAL ON VA CONTROL LOOP	0 0 0 0	8 8 8 21 16	08:00 27NOV96 08:00 29NOV96 08:00 30NOV96 08:00 19NOV96 08:00 20NOV96 08:00 22NOV96 13:00	15:59 27NOV96 15:59 29NOV96 15:59 30NOV96 15:59 19NOV96 15:59 22NOV96 12:59	E E	
14-40 P14-10 EC-02-B 16-02 16-06	INSPECT OR CALIBRATE UP ATOM PRESS. REGULATOR INSPECT OR CALIB. ATOM STEAM TEMP REGULATOR INSP. OR REPAIR ATOMIZING STEAM REGULATOR COMBUSTION CONTROL SYSTEM INSP. & CALIB. FUEL OIL SUPPLY PRESS TRANSMITER INSP. & CALIBRATE UP FUEL OIL PRESS REGULATOR	0 0 0	8 8 8 21 16	08:00 27NOV96 08:00 29NOV96 08:00 30NOV96 08:00 19NOV96 08:00 20NOV96 08:00 22NOV96 13:00 25NOV96	15:59 27NOV96 15:59 29NOV96 15:59 30NOV96 15:59 19NOV96 15:59 22NOV96 12:59 25NOV96 12:59 26NOV96	E E	
P14-10 P14-10 EC-02-B 16-02 16-06 16-09	INSPECT OR CALIBRATE UP ATOM PRESS. REGULATOR INSPECT OR CALIB. ATOM STEAM TEMP REGULATOR INSP. OR REPAIR ATOMIZING STEAM REGULATOR COMBUSTION CONTROL SYSTEM INSP. & CALIB. FUEL OIL SUPPLY PRESS TRANSMITER INSP. & CALIBRATE UP FUEL OIL PRESS REGULATOR TEST ALL MEASURE SIGNAL ON VA CONTROL LOOP	0 0 0 0	8 8 8 21 16	08:00 27NOV96 08:00 29NOV96 08:00 30NOV96 08:00 19NOV96 08:00 20NOV96 08:00 22NOV96 13:00	15:59 27NOV96 15:59 29NOV96 15:59 30NOV96 15:59 19NOV96 15:59 22NOV96 12:59 25NOV96 12:59 26NOV96 12:59		
P14-10 P14-10 EC-02-B 16-02 16-06 16-09 16-35	INSPECT OR CALIBRATE UP ATOM PRESS. REGULATOR INSPECT OR CALIB. ATOM STEAM TEMP REGULATOR INSP. OR REPAIR ATOMIZING STEAM REGULATOR COMBUSTION CONTROL SYSTEM INSP. & CALIB. FUEL OIL SUPPLY PRESS TRANSMITER INSP. & CALIBRATE UP FUEL OIL PRESS REGULATOR TEST ALL MEASURE SIGNAL ON VA CONTROL LOOP TEST SOLENOID EQUIPMENT INSP. & REPAIR PROPANE SYST. & VENT. VALVE	0 0 0 0 0 0	8 8 8 8 21 16 8 2 8 2 8 2 8 2 8 2 8 2 8 2 8 2 8 2 8	08:00 27NOV96 08:00 29NOV96 08:00 30NOV96 08:00 19NOV96 08:00 20NOV96 08:00 22NOV96 13:00 25NOV96 13:00	15:59 27NOV96 15:59 29NOV96 15:59 30NOV96 15:59 19NOV96 15:59 22NOV96 12:59 25NOV96 12:59 26NOV96		
P14-10 P14-10 EC-02-B 16-02 16-06 16-09 16-35	INSPECT OR CALIBRATE UP ATOM PRESS. REGULATOR INSPECT OR CALIB. ATOM STEAM TEMP REGULATOR INSP. OR REPAIR ATOMIZING STEAM REGULATOR COMBUSTION CONTROL SYSTEM INSP. & CALIB. FUEL OIL SUPPLY PRESS TRANSMITER INSP. & CALIBRATE UP FUEL OIL PRESS REGULATOR TEST ALL MEASURE SIGNAL ON VA CONTROL LOOP TEST SOLENOID EQUIPMENT	0 0 0 0 0 0	8 8 8 21 16 8 2 8 2 8 2 8 2 8 2 8 2 8 2 8 2 8 2 8	08:00 27NOV96 08:00 29NOV96 08:00 30NOV96 08:00 19NOV96 08:00 20NOV96 13:00 25NOV96 13:00 26NOV96 13:00 27NOV96	15:59 27NOV96 15:59 29NOV96 15:59 30NOV96 15:59 19NOV96 15:59 22NOV96 12:59 26NOV96 12:59 27NOV96 12:59 27NOV96 12:59 27NOV96 12:59 29NOV96		
P14-10 P14-10 EC-02-B 16-02 16-06 16-09 16-35 16-06	INSPECT OR CALIBRATE UP ATOM PRESS. REGULATOR INSPECT OR CALIB. ATOM STEAM TEMP REGULATOR INSP. OR REPAIR ATOMIZING STEAM REGULATOR COMBUSTION CONTROL SYSTEM INSP. & CALIB. FUEL OIL SUPPLY PRESS TRANSMITER INSP. & CALIBRATE UP FUEL OIL PRESS REGULATOR TEST ALL MEASURE SIGNAL ON VA CONTROL LOOP TEST SOLENOID EQUIPMENT INSP. & REPAIR PROPANE SYST. & VENT. VALVE INSP. OR REPAIR OIL RECIRCULATING VALVES	0 0 0 0 0 0 0 0	8 8 8 21 16 8 3 3 8 4 5	08:00 27NOV96 08:00 29NOV96 08:00 30NOV96 08:00 19NOV96 08:00 20NOV96 13:00 25NOV96 13:00 26NOV96 13:00 27NOV96 13:00	15:59 27NOV96 15:59 29NOV96 15:59 30NOV96 15:59 19NOV96 15:59 22NOV96 12:59 26NOV96 12:59 27NOV96 12:59 27NOV96 12:59 29NOV96 12:59		
P14-10 P14-10 EC-02-B 16-02 16-06 16-09 16-35 P16-06	INSPECT OR CALIBRATE UP ATOM PRESS. REGULATOR INSPECT OR CALIB. ATOM STEAM TEMP REGULATOR INSP. OR REPAIR ATOMIZING STEAM REGULATOR COMBUSTION CONTROL SYSTEM INSP. & CALIB. FUEL OIL SUPPLY PRESS TRANSMITER INSP. & CALIBRATE UP FUEL OIL PRESS REGULATOR TEST ALL MEASURE SIGNAL ON VA CONTROL LOOP TEST SOLENOID EQUIPMENT INSP. & REPAIR PROPANE SYST. & VENT. VALVE	0 0 0 0 0 0 0 0	8 8 8 21 16 8 3 3 4 8 2 8 3 4 8 2 8 3 4 8 2 8 3 4 8 2 8 3 4 8 2 8 3 4 8 2 8 3 4 8 2 8 3 4 8 2 8 3 4 8 2 8 3 4 8 2 8 3 4 8 2 8 3 4 8 2 8 3 4 8 2 8 3 4 8 2 8 3 4 8 2 8 3 4 8 2 8 3 4 8 2 8 3 4 3 4	08:00 27NOV96 08:00 29NOV96 08:00 30NOV96 08:00 19NOV96 08:00 20NOV96 13:00 25NOV96 13:00 27NOV96 3:00 29NOV96	15:59 27NOV96 15:59 29NOV96 15:59 30NOV96 15:59 19NOV96 15:59 22NOV96 12:59 25NOV96 12:59 27NOV96 12:59 29NOV96 12:59 29NOV96 12:59 29NOV96 12:59		
216-08 216-10	INSPECT OR CALIBRATE UP ATOM PRESS. REGULATOR INSPECT OR CALIB. ATOM STEAM TEMP REGULATOR INSP. OR REPAIR ATOMIZING STEAM REGULATOR COMBUSTION CONTROL SYSTEM INSP. & CALIB. FUEL OIL SUPPLY PRESS TRANSMITER INSP. & CALIBRATE UP FUEL OIL PRESS REGULATOR TEST ALL MEASURE SIGNAL ON VA CONTROL LOOP TEST SOLENOID EQUIPMENT INSP. & REPAIR PROPANE SYST. & VENT. VALVE INSP. OR REPAIR OIL RECIRCULATING VALVES	0 0 0 0 0 0 0 0	8 8 8 21 16 8 2 8 2 1 1 1 8 2 1 1 1 1 1 1 1 1 1 1 1	08:00 27NOV96 08:00 29NOV96 08:00 30NOV96 08:00 19NOV96 08:00 20NOV96 13:00 25NOV96 13:00 25NOV96 13:00 25NOV96 13:00 25NOV96 13:00 25NOV96 13:00 25NOV96 13:00	15:59 27NOV96 15:59 29NOV96 15:59 30NOV96 15:59 19NOV96 15:59 22NOV96 12:59 26NOV96 12:59 27NOV96 12:59 27NOV96 12:59 29NOV96 12:59		

Activity ID	Activity description	"	RE DU	90: 12000000 000000000000000000000000000000	Early finish		DEC 2 8 16
EC-02-0	ALARM PANEL			*******	3.5		A A
E18-02	INSP. OR REPAIR EQUIPMENT ALARM	0	2	1 02DEC96 13:00	05DEC96 09:59	200	ANY .
EC-03	COMBUSTION AIR						1
EC-03-4	A WINDBOX						
EC-03-/	N-1 DIFFUSERS/ SWIRLERS						
B22-02	INSP. OR CALIB. SWIRLES / DIFFUSER GUN DISTANCE	0		8 05DEC96 10:00	06DEC96 09:59		∆SJ
B22-04	INSP. OR REPAIR SWRLES / DIFFUSER	0	1	8 06DEC96 10:00	07DEC96 09:59		Ø
EC-03-A	A-2 AIR SLIDES						
B20-04	INSP. OR REPAIR AIR & GAS DAMPERS	0	24	19NOV96 08:00	21NOV96 15:59		
P20-04	INSPECT OR REPAIR PNEUMATIC PISTON	0	8	19NOV96 08:00	19NOV96 15:59	Z	and the same of th
120-02	INSPECT OR REPAIR SOLENOID VALVES	0	8	22NOV96 08:00	22NOV96 15:59	Z Z	
120-04	INSP. & TEST PROXIMOTOR, SWITCH POSITION SIGNAL	0		23NOV96 08:00	15:59	X	
P20-02	INSP. & CLEAN FURNACE AND WIND BOX PRESS LINES	0	8	25NOV96 08:00	25NOV96 15:59	×	
	-3 REGISTER						
EC-03-A B28-02	INSPECT OR REPAIR AIR AND GAS DAMPERS	0	16	26NOV96 08:00	27NOV96 15:59	AST	
FC_03_0	5 DUCT AND FURNACE CASING INTEGRITY			00.00	110.00		1
B30-08	INSP. OR REPAIR INNER & OUTER CASING	0	20	29NOV96 08:00	020EC96 11:59	4	
B30-10	INSP.OR REPAIR BURNER CORNER	0	21	02DEC96 12:00	05DEC96 08:59		207
EC-03-A	-6 TILTING MECHANISM						
	AIR PRE-HEATER						
B34-02	INSPECT SOOTBLOWERS	0		19NOV96 08:00	19NOV96 15:59	7 .	
B34-08	INSPECT REPAIR TURBINE AIR DRIVER MOTOR	0		08:00	20NOV96 15:59	Z.	
B34-12	INSP. OR REPAIR SECTOR PLATES	0		21NOV96 08:00	21NOV96 15:59	Z	
B34-14	INSPECT & REPAIR ROTOR CASING	0		22NOV96 08:00	23NOV96 15:59	<i>S</i> 7	
B34-16 B34-18	INSPECT LUBRICATION SYSTEM INSPECT AXIAL & CIRCUNFERENCIAL SEALS	0		25NOV96 08:00	25NOV96 15:59	A	
334-18	INSP. OR REPAIR HEATING ELEMENTS	0		26NOV96 08:00 27NOV96	27NOV96 14:59	S	
334-22	INSPECT DRAIN LINES	0		27NOV96 15:00 29NOV96	29NOV96 14:59 30NOV96		
334-24	INSPECT OR REPAIR WASHING DEVICE	0		15:00 30NOV96	14:59 02DEC96		167
34-12	INSP. OR REP. DIFFERENTIAL PRESSURE	0		15:00	14:59 03DEC96		- E9
	TRANSMITTER INSP. & TEST TURBINE AIR SOLENOID & ALARM	0		15:00	14:59		
A-1-0	MOP, & 1231 TURDINE AIR SULENOID & ALAKM	9	0.000		04DEC96 11:59		₽ .

Activity ID	Activity description	*	RE Du	00.	Early	·	I DE
134-18	INSPECT OR REPAIR AIR / GAS THERMOCOUPLE			4 04DEC96		8 25	2 9 1
	THE STATE OF THE S	1	1	12:00	09:59		ANT
P34-02	INSPECT A.H. SENSING LINES	1	0	8 06DEC96	1		M
		1		10:00	09:59		
EC-03-0							
A36-02	INSPECT OR REPAIR FORCE DRAFT FAN	1	2	08:00	21NOV96 11:59	367	
A38-04	INSPECT OR REPAIR INDUCED DRAFT FAN	(1	0 21NOV96 12:00	22NOV96 13:59	S	
A36-06	INSPECT & REPAIR BEARINGS	0	1	0 22NOV96 14:00	23NOV96 15:59	87	
A36-08	INSP. OR REPAIR RECIRCULATING GAS FAN	C		5 25NOV96 08:00	25NOV96 12:59	M	
B36-02	INSPECT OR REPAIR SHUTT OFF DAMPERS	C		8 25NOV96 13:00	26NOV96 12:59	Ø	
E36-02	INSPECT IDF & FDF MOTOR	C		8 26NOV96 13:00	27NOV96 12:59	S	
136-02	INSP. OR REP. CALIB. OF SENSOR VIBRAT. ALL FANS	0	1	5-27NOV96 13:00	30NOV96 11:59	-	
136-06	INSPECT OR REPAIR SOLENOID & ALARMS	0		30NOV96 12:00	02DEC96 11:59	1	3 57
136-10	INSPECT INTERLOCK SYSTEM & VP FOR FANS	0	10	02DEC96 12:00	03DEC96 13:59		B
M36-02	INSPECT OR REPAIR SCANNER FAN	0	1	03DEC96 14:00	04DEC96 13:59		B
M36-04	CHANGES OIL IN ALL BEARING FAN & OIL LEAKAGES	0		04DEC96 14:00	05DEC96 13:59		Ø
P36-02	TEST FAN ANTILOCK SYSTEM& PNEUMATIC CONTROL	0	8	05DEC96 14:00	06DEC96 13:59	1	SI.
P36-04	INSP. OR REP. MANOMETER AND THERMOMETER	0	7	06DEC96 14:00	07DEC96 12:59		M
EC-03-D	STEAM COILS						
G38-02	WASH STEAM RADIATOR	0	8	19NOV96 08:00	19NOV96 15:59	Z .	
38-04	INSPECT OR REPAIR UP CONTROL VALVE	0	8	20NOV96 08:00	20NOV96 15:59	ZZ .	
M38-02	INSPECT STEAM RADIATOR	0	8	21NOV96 08:00	21NOV96 15:59	Ø	
M38-04	INSPECT OR REPAIR STEAM TRAPS	0	8	22NOV96 08:00	22NOV96 15:59	Z	
N38-02	INSPECT MANOMETER & THERMOMETER	0	8	23NOV96 08:00	23NOV96 15:59	Z	
38-02	INSP. OR REPAIR REGULATOR POSITIONER	0	8	25NOV96 08:00	25NOV96 15:59	Ø	
EC-04	FLUE GAS HANDLING AND MEASUREMENT						
**************	DUCKWORK					I	
	INSP. & REPAIR AIR & GAS DUCTS	0		08:00	21NOV96 12:59	367	
140-04	INSPECT OR REPAIR BOILER STRUCTURE	0	14	21NOV96 13:00	23NOV96 10:59	AN7	
	INSTRUMENTATION						
	1 OXYGEN						
14-04	INSPECT OR REPAIR O2 ANALIZERS	0			26NOV96 09:59	A\$\$\$7	
	2 OPACITY				-5.55		

Activity ID	Activity description		× 100	EM Early UR start		-	01
146-02	CLEAN LIGHT DUCT IN BOTH OPACITY MONITOR		223 900	20 19NOV9		3 2	2 9
	SELECTION DOT IN BOTH OF MORE OR			08:00	11:59	, 130	
146-04	CHECK CALIBRATION OF BOTH SMOKE DETECTORS	3	0	25 21 NOVS	6 25NOV96	4	
				12:00	12:59		
146-06	INSPECT RECORDES OPERATION & CONFIGURATIO	M	0	8 25NOV9		B	
140.00	TEST ALABA COEDATOR	_	-	13:00	12:59	_	
146-08	TEST ALARM OPERATOR		0	8 26NOV9	6 27NOV96 12:59	A	
EC DA	B-3 TEMPERATURE			10.00	12.00		
148-04	INSPECT OR REPAIR MISCELLANEOUS	7	ol .	35 27NOV9	6 1000000	₩.	DOM:577
	THERMOCOUPLE	1	'	13:00	6 03DEC96 15:59	1 4	
FC-04-1	B-4 DRAFT	<u> </u>	Sec.			-	
N50-02	INSPECT OR REPAIR SENSING LINES	T	ו	8 04DEC9	04DEC96		æ
				08:00	15:59		CAL.
EC-04-0	SOOTBLOWERS			,			†
B52-02	INSPECT OR REP. SOOT BLOWERS ASSEMBLY	. 7	7	190009		37	
			L	08:00	12:59		
E52-02	INSP. & MAINTENANCE LIMIT SWITCH	0	1 3	5 21NOV9		2007	
E52-04	INSPECT SOOTBLOWER ELECTRIC PANEL	+	-	13:00	15:59	١ ـ	
E32-04	MOPECT SOCIEDONER ELECTRIC PAREL	0		4 27NOV96 08:00	27NOV96 11:59	Z	
152-02	CALIB TX FOR FAN SOOTBLOWER PRESS	10	1	8 27NOV96		-	*
				12:00	11:59		
M52-02	INSPECT RETRACT SOOTBLOWERS PACKING	0		8 29NOV96	30NOV96	1 4	7
			_	12:00	11:59		
N52-02	INSP. OR REP. SOOTBLOWER STEAM REG. VAL. & CONT.	0		8 30NOV96 12:00	02DEC96 11:59	1	307
P52-04	INSPECT OR REPAIR THERMO DRAINS VALVES	0	-	8 02DEC96		4	N/
	8	"		12:00	11:59		234
EC-04-D	BOILER WASH						<u> </u>
B54-02	WASH STACK AND AIR HEATER	0	1	5 19NOV96	20NOV96	37	
				08:00	14:59		
B54-04	WASH PEN-HOUSE & DOG HOUSE DUCTS	0	1	20NOV96		A	
B54-06	CLEAN BOTTOM FURNACE	-		15:00	14:59	_	
004-08	CLEAN BOTTOM FORMACE	0	,	21NOV96 15:00	22NOV96 11:59	ST.	
B54-08	WASH & CLEAN GAS CONDUCTS (ECONOMISER	0	15	22NOV96		AST	
	HOPPER)			12:00	10:59		
B54-10	WATER WASH ALL FANS	0	5	25NOV96		Z	
				11:00	15:59		
354-12	WASH SUPERHEATER & REHEATER TUBES	0	5	26NOV96 08:00	26NOV96 12:59	Z	
354-14	WASH LOW TEMP. SUPERHEATER & ECONOMISER	0		26NOV96	27NOV96	<i>1</i> 57	
			-	13:00	09:59		
354-18	CLEAN AIR HOPER	0	5	27NOV96	27NOV96	Z	
				10:00	14:59	İ	
54-18	WATER WASH WALL	0	5	27NOV96	29NOV96	4	
- C. O. C.	200 VIII - 10 - 10 - 10 - 10 - 10 - 10 - 10 -		******	15:00	11:59		
***************	COMPLETE STEAM CYCLE	46					
**************	PRESSURE PARTS	TAT		40010		.	
55-04	INITIAL HIDROTEST	0	4	19NOV96 08:00	19NOV96 11:59	4	
12-02	CHANGE OR REP. BROKEN TUBES	0	42	19NOV96			
		1 -	76		20110 430	-	

Activi ID	Activity description	3		EM Early UR start		ANNO ALLEGATION CONTRACTOR	I DEC
B56-06	INSPECT & REPAIR PRIMARY & SECONDARY S.H.		0	4 19NOV9	AND AND MARKET STATES	**************************************	2 9 16
B56-08	INSPECT REHEATER	+	0	4 20NOV9		6 🕱	
B58-10	INSPECT PLATTEN SUPERHEATER	1	0	4 20NOV90 12:00		5 2	
B56-12	FINAL HIDROTEST	1	0	4 21NOV96 08:00	21NOV96 11:59	3 2	
B56-14	FINISH WORK UNIT #7	1		0 14DEC96 15:00	14DEC96	5	X
EC-05	-B FEED WATER HEATERS		× 1111				
E58-02	INSPECT OR REPAIR ALARMS		1	8 19NOV96 08:00	19NOV96 15:59	Z	
158-04	INSPECT THERMOCOUPLE	C	3	08:00	23NOV96 13:59	AND	
158-08	INSP. & CALIB. VP DEARATOR LEVEL, HOTWELL LEVEL	. 0		7 23NOV96 14:00	25NOV96 12:59	457	
M58-02	INSPECT OR REPAIR SIDE GLASS LEVEL	0		8 25NOV96 13:00	26NOV96 12:59	Ø	•
M58-04	INSP. & REPAIR HEATER IF NECESSARY	0		8 26NOV96 13:00	27NOV96 12:59	AST	
M58-06	MAINT. ISOLATION VALVES & OTHER VALVES ASS, HEA	0		8 27NOV96 13:00	12:59	A	7
P58-02	INSPECT REGULATOR VALVES AND CONTROLS	0		8 29NOV96 13:00	12:59		\$
P58-04	INSPECT NON-RETURN VALVES TRIP MECHANISM	0		30NOV96 13:00	12:59		357
P58-10	INSPECT MANOMETER THERMOMETER	0		02DEC96 13:00	03DEC96 12:59		87
*************	C WATER-WALL TUBE INTEGRITY						
870-02	INSPECT ECONOMISER	0		19NOV96 08:00	19NOV96 15:59	Z .	7
B70-04	NSPECT DRUM & HEADER	0		20NOV96 08:00	20NOV96 12:59	XX	
B70-08	INSPECT DOG HOUSE	0	4	20NOV96 13:00	21NOV96 08:59	A	77
EC-06	CONDENSER WORKS						
G10-04	CLEANING CONDENSER TUBES	0		19NOV96 08:00	20NOV96 15:59	357	
M10-02	URANINE TEST & BROKEN TUBES CAPS	0		21NOV96 08:00	21NOV96 11:59	Ø	
M10-06	REPAIR HOLES AND CONDENSER INFILTRATIONS	0	8	21NOV96 12:00	22NOV96 11:59	87	
EC-07	EXTRA WORKS						
B48-02	CALIB. SOPORTE LINEAS PRINCIPALES VAPOR	0	88	19NOV96 08:00	02DEC96 15:59		v
08-02	INST. NEW TERMOCOUPLE CABLE FOR THROTTLE	0		08:00	21NOV96 15:59	357	
M10-08	REM LIMPIAR COOLER GENERADOR	0		00:80	15:59	3007	
T65-00	STEAM SEAL REGULATOR VALVE U #7	0		00:80	18NOV96 15:59	Z	
r65-02	REMOVER ENVOLVENTE DE LA TURBINA	0		08:00	19NOV96 15:59	7	
65-04	REMOVER AISLACION DE VALVULAS REGULADORAS	0	1000		20NOV96 15:59	2	

Activity	Activity	*	REA	A Early a	Early		
10	description		DUI	atari	finish	200	DEC
T65-06	REMOVER VALVULAS REGULADORAS	0	8	21NOV96 08:00	21NOV96 15:59	A CO	- A - 119
110-02	INSTALL ALARM PANEL HIDROGEN	0	56	22NOV96 08:00	30NOV96 15:59		
T65-08	REMOVER LINEAS DE VAPOR DE SELLOS	0	8	22NOV96 08:00	22NOV96 15:59	N	\$
T65-10	INSTALAR LINEAS DE VAPOR DE SELLO Y DES CARGAS	0	42	23NOV96 08:00	30NOV96 09:59	A	
T85-12	INSTALAR VALVULAS REGULADORAS DE SELLO Y DESCARG	0	16	30NOV96 10:00	03DEC96 09:59	4	
110-04	INST. NEW CONTROL REGULATOR FOR TURBINE SEAL	0	40	02DEC96 08:00	06DEC96 15:59	ASS.	V
T65-14	INSTALAR SOPORTES ALINEAS DE VAPOR	0	16	03DEC96 10:00	05DEC96 09:59	48	7
T6316	CONECTAR LINEAS DE ALIMENTACION AL SISTEMA	0	8	05DEC96 10:00	06DEC96 09:59	4	9
T65-18	AISLAR SISTEMA DE VAPOR DE SELLOS	0	16	06DEC96 10:00	08DEC96 01:59		
118-02	INST. TERMOCOUPLE REHEAT & SUPERHEATER SURFACE	0	16	07DEC96 08:00	08DEC96 07:59		S.
T65-20	LIMPIEZA DE ESCOMBROS	0	8	08DEC96 02:00	08DEC96 09:59		Ø
T65-22	INSTALAR ENVOLVENTES DE LA TURBINA	0	- 1	08DEC96 10:00	08DEC96 17:59		Z

PUERTO RICO ELECTRIC POWER AUTHORITY

San Juan Steam Plant Inspection and Analysis Program

San Juan Steam Plant Unit 8 was out of service from April 2, 1997 through May 2, 1997. During the outage the following equipment were repaired installed or replaced in order to insure the unit's environmental compliance.

I. FUEL OIL HANDLING

A. Fuel Oil Pump

- 1) A new recirculation valve was installed at fuel oil pump #1. New stands were installed on the fuel oil pump #2 recirculation valve.
- The Bunker "C" oil pump pressure control and pressure regulating valves were inspected and calibrated.
- 3) New pressure regulating valve was installed in the bunker "C" oil pump 8-1.

B. Viscosimeter

1) A Norcross, model MP90 viscosimeter was cleaned, calibrated and tested.

C. Burner

 Faces contact, short circuit and pressure test were made for burners tips and hoses.

D. Burner Management System

- A new Forney- Foxboro burner management system was installed.
- A new main flame detection system was installed and verified.
- 3) A new ignite flame detection system was installed and verified.
- All burners were fired and their flame calibrated.
- 5) New igniters were installed (model maxfire 10).

II. COMBUSTION CONTROL

A. Atomizing Steam Controls

- 1) Calibrated the transmitters for the atomizing steam press 0 200 psi.
- 2) Inspected and verified the atomizing steam press I/P's calibration.
- 3) Performed maintenance and tested the atomizing steam press trip and alarm.
- 4) The atomizing steam pressure regulator was inspected and calibrated.

B. Combustion Control System

1) Calibrated the transmitter for the fuel oil pressure.

C. Alarm Panels

1) Four alarm boards were replaced.

III. COMBUSTION AIR

A. Dampers

- Gas recirculating fan; all dampers and control vanes were greased and inspected.
- Induced draft fans; all damper and control vanes were greased and inspected.
- 3) Forced draft fans; all damper and control vanes were greased and inspected.

B. Duct and furnace Casing Integrity

1) Duct and furnace casing were inspected and repaired as necessary.

C. Air Preheater

- 1) Sensing lines were inspected, checked for deposit of soot in the pipe and found in good condition.
- 2) All Pressure transmitters have been inspected and calibrated.
- The steam line for the soot blowers were relocalized to assure good drainage of condensations.
- All radial and by-pass seals were replaced.

D. Fan

- Motors were repaired in both scanner fans. Fan blades and laggings were inspected in both blowers and found in good condition.
- Sealing air fans were removed from area and the discharge header was closed. They are no longer needed due to the balanced draft conversion.
- 3) New motor was installed on scanner blower 8-1.
- 4) Forced draft, induced draft, recirculating gas fans and all shut off dampers pistons (all) were inspected, calibrated, cleaned, greased and tested.
- 5) The gas recirculating fan was cleaned, dryed and tested.
- All dampers and control vanes were greased and inspected.
- 7) The forced draft fans 8-1 & 8-2 were cleaned and inspected.
- 8) The induced draft fans 8-1 & 8-2 were cleaned and inspected.

E. Steam coil

- 1) All valves in both steam coils were inspected. Maintenance of all valves were made. Packing was replaced in all valves.
- 2) The steam coils pressure regulating valves were inspected and calibrated.

F. Wash Steam Radiators

 Steam Coils were water washed (high pressure), all rags, papers and garbage were removed from them.

IV. FLUE GAS HANDLING AND MEASUREMENT

A. Duct Work

Air and gas duct casings were inspected and repaired as necessary.

B. Oxygen

- Inspected and performed maintenance on the four oxygen probes.
- 2) Verified loop between oxygen control and foxboro I/A.

C. Opacity

- 1) Inspected and performed maintenance on both opacity meter.
- For both opacimeter;
 - * Existing light duct was cleaned.
 - * The air filter was replaced.
- 3) Performed calibration check on both opacimeters.

D. Temperature

 Air in, Air out, Gas in and Gas out thermocouples were inspected and replaced as necesary.

E. Sootblower

- 1) All boiler and air heater sootblower, local, manual and auto operation were tested.
- 2) Boiler sootblower travel were tested.

Inspection and Analysis Program Unit 8

- 3) New thermal drain circuit of the soot blower system was installed and tested.
- Thermoprobe system was tested.
- Pressure control valve was cleaned, inspected and calibrated.
- 6) Sootblower steam regulating valve was inspected and calibrated.
- Mechanical inspection, maintenance and calibration was performed to all soot blower.
- 8) Inspection an calibration of the inclination angle was performed on every soot blower as design specifications.
- Packing seals were inspected in all soot blower.
- 10) Calibrations of steam pressure to blowers were made.
- 11) Part of the warming up header was changed for a new one.
- 12) Poppet valve actuator linkage was repaired in blower IK-7.
- 13) Poppet valve actuator pins were changed in all the soot blower.

F. Boiler Wash

- The following areas were washed and cleaned by J.R. Insulation company.
 - * Air heater
 - * Bottom furnace
 - * Gas and air ducts
 - Induced ducts
 - * High temperature superheater, low temperature superheater, reheater and economizer elements.
 - Vestibule, penthouse and doghouse.
 - * Soot from chimneys were removed.

The following areas were hydroblasted and neutralized by Induchem company:

* Economizer, low temperature superheater, high temperature superheater and reheater elements.

* Waterwalls

V. COMPLETE STEAM CYCLE

A. Pressure Parts

- 1) Initial hydrostatic test was performed on April 24, 1997, founding the following leakages:
 - * Element number 5 from west to east, tube number seven from top bottom at the bend weld high temperature superheater.
 - * Tube number three from west to southeast waterwall at the mud drum bend area.
 - * Bends number 5 and 6 from north to southwest side header. They were all repaired by either tube replacement or welding.
- Final Hydrostatic test was performed on April 25, 1997; no leakage found.
- 3) The superheater safety valve was installed new. The design pressure is 1,945 psi and was calibrated at 1,949 psi.
- 4) Cracks on the liner plate inside the steam drum were repaired.
- 5) The cold reheater flange near the steam drum was repaired.
- All thirty three waterwall bends tube that are attached to the west side header were replaced; and the first south mud drum bend tube from east to west was installed.
- An air test was performed in the reheater, no leak was found.

B. Feedwater Heater

1) Packing was inspected in all feedwater heater valves.

Maintenance as needed was performed to all valves associated with the water heaters, including isolation valves for water extraction valves, drains, condensate and instrument isolator valves.

C. Waterwall Integrity

1) Waterwall integrity was inspected and repaired as necessary.

HARDWARE UPGRADE

			April 2 tilrough Way 2, 1997
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
I- FUEL OIL HANLING A- FUEL OIL QUALITY			
B - FUEL OIL PUMPS			
INSP. REP.& TEST AUTO START BKR	EL	24-Apr	Preventive maintenance was done for fuel oil pump breaker.
INSP TEST AUTO START PRESS.SWITCH	EL	2-May	Inspected and tested
INSPECT OR REPAIR PUMPS	ME	29-May	Inspected and repaired,
			mechanical seal in both pumps
INSPECT AND CLEAR STRAINER	ME	29-May	Removed and cleaned
			suction filter elements
INSP.&MAINT.PUMP ISOLATION VALVES	ME	29-May	Inspected all their components
INSP.&MAINT OTHER VALVE PUMP SEC	ME	29-May	Inspected all their components
INSP.REPAIR FUEL OIL REC.VALVES	IN	25-Apr	Inspected and Calibrated
			both valves
C- FUEL OIL HEATERS			1.99
CALIBRATED I/P FUEL HEATER VALVE	IE		No work required
INSP.TEST FUEL OIL TEMP. THERMOCO	IE	2-May	Inspected physically,good cond.
INSP.TEST TEMP.FUEL OIL TRIP ALARM	IE	2-May	Performed maintenance and test
CALIBRATED I/P FUEL REC. VALVE	· IE	_ Indy	Next program outage
INSP. OR REPAIR HEATING ELEMENTS	ME	29-Apr	Insp.& scheduled to be repaired.
INSP.OR REPAIR STEAM TRAP	ME		Next program outage.
REP. LEAK PIPING ASSO. WITH HEATER	ME	29-Apr	Packing were adjusted as nece.
INSP.OR REP. STEAM REG. VALVE	IN	25-Apr	Inspected and Calibrated
INSP.OR CHANGE THERM. AND MANO	IN	25-Apr	Inspected and Calibrated
INSP.OR REP. HEATER RELIEF VALVE	IN	25-Apr	Inspected.ok
D- VISCOSIMETER			
INSP. & CLEAR TEST VISCOSIMETER	IE.	0.14	OLEANER OLL
INOF. & OLEAN TEST VISCUSIMETER	IE	2-May	CLEANED, CALIBRATED
E- BURNER		1	AND TEST
E- DURINER	1		

HARDWARE UPGRADE

ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
E - BURNER		-	
CHECK OR CHANGE NOZZLE ASSEMBLY	ME	29-Apr	Face contact, short circuit and
INCO DEDAID ALL DUDNESS			pressure test were made
INSP.REPAIR ALL BURNERS	ВО	22-Apr	Inspected & general
F- BURNER ISOLATION VALVE			maintenance was performed.
INSP.LIMIT SWITCH & SOLENOIDE	ΙE	2-May	Inspected-inst. new solenoid
INSP. OR REPAIR OIL /STEAM LINE	ME	29-Apr	Valves were performed as
& RACK VALVES			needed.
INSP. OR REPAIR TRIFECTAS VALVES	IN	25-Apr	Inspected. ok
INSP. & CHANGE THERMOMETER	IN	25-Apr	Inspected and calibrated.
& MANOMETERS			
G - BURNER MANAGEMENT SYSTEM			
INSP. ALL INDICATION LIGHT ON BMS	IE .	2-May	Inspected and tested
INSP. & TEST ALL IGNITER	IE	2-May	Inspected & tested.
INSP.LIMIT SWITCH TRIFECTAS, GUN INSI	İE	2-May	Inspected & tested.
INSP. OR REPAIR SCANNERS	İE	2-May	inspected.ok
NSP.& TEST ALL MFT SIGNAL FROM	IE	2-May	inspected. ok
DEVICES		L may	inspected. Ok
II -COMBUSTION CONTROL			
A- ATOMIZING STEAM CONTROLS			
NSP.& CALIBRATE ATOM.STEAM PRESS.	IE	2-May	Calibrated and Inspected
NSP.OR CALIBRATED I/P ATOM PRESS.	IE	2-May	Inspected and verified calibration
NSP.&CALIB.ATOM STEAM PRESS	IE	2-May	Performed maintenance & test
ALARM & TRIP.			- chemica mantenance & lest
NSP. & TEST ATOM STEAM TERMOCOUP	IE		No work required
NSP. OR CALIB. ATOM STEAM	IE	2-May	Inspected & calibrated.ok
TEMP REGULATOR			
NSP. OR REP. ATOMIZING STEAM REG	IN	2-May	Inspected & calibrated. ok
	l		

HARDWARE UPGRADE

			7.prii 2 tiii Ottgii May 2,1997
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
B - COMBUSTION CONTROL SYSTEM			
INCD & CALIB FUEL ON CUEDA			***
INSP.& CALIB. FUEL OIL SUPPLY PRESS TRANSMITER	IE	2-May	Inspected and calibrated
CALIB. LOW OIL PRESS ALARM AND TRIP			
INSP.& CALIB. I/P FUEL OIL PRESS REG			Next program outage
TEST ALL MEASURE SIGNAL ON I/A	IE	2-May	Inspected & calibrated. ok
CONTROL LOOP	IE	2-May	tested.ok
TEST SOLENOID EQUIPMENT	100		
INSP. OR REPAIR PROPANE SYST.	IE	2-May	Tested-ok
& VENT. VALVE	IN	2-May	Atomizing steam press. reg.
INSP. OR REPAIR OIL			inspected and calibrated
RECIRCULATING VALVES	IN		No work required.
INSP.& CHANGE MANOMETER	- 15.1		
& THERMOMETERS	IN	2-May	Inspected and Calibrated
C - ALARM PANEL			
NSP.OR REPAIR EQUIPMENT ALARM			
INOT ON REPAIR EQUIPMENT ALARM	EL	1-May	All lamps were tested.
III-COMBUSTION AIR			
A- WINBOX			
A-I DIFFUSER/ SWIRLERS			
NSP.OR CALIB.SWIRLES/DIFFUSER	ВО	22-Apr	Insp. No work required
GUN DISTANCE		ZZ Api	insp. No work required
NSP. OR REPAIR SWIRLES/DIFFUSER	ВО	22-Apr	Insp. No work required
			msp. 140 Work required
A-2 AIR SLIDES			
NSP.OR REPAIR AIR & GAS DAMPERS	ВО	17-Apr	Insp.& lubricated in good cond.
INSP. OR REPAIR SOLENOID VALVES	IE	2-May	Inspected, fully functional.
NSP. & TEST PROXIMOTOR SWITCH	IE	2-May	Inspected, rally ranctional.
POSITION		2 ividy	піврестей а ріогену спескей.ок
INSP.& CLEAN FURNACE AND WIND	IN		No work required.
BOX PRESS			work required.
A-3 REGISTER			
A-4 DAMPERS			

HARDWARE UPGRADE

	т		April 2 through May 2,1997
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
A-4 DAMPERS			
INSP. OR REP. AIR AND GAS DAMPER	ВО	24-Apr	Insp., no work required
A-5 DUCT AND FURNACE CASING INTEG		247701	msp., no work required
INSP. OR REPAIR INNER & OUTER	ВО	17-Apr	Inspected-repaired as necessary
CASING			inspected-repaired as necessary
A-6 TILTING MECHANISM			
B - AIR PREHEATER			
INSPECT SOOTBLOWERS	ВО	25-Apr	inspected . ok
INSP. OR REPAIR TURBINE AIR	ВО	25-Apr	Inspected ok
DRIVER MOTOR		20 7101	mapected. Ok
INSP. OR REPAIR SECTOR PLATES	ВО	25-Apr	Inspected, found in good cond.
INSPECT & REPAIR ROTOR CASING	ВО	25-Apr	Inspected no work required
INSP. LUBRICATION SYSTEM	ВО	25-Apr	Inspected-O.K
INSP. AXIAL & CIRCUNFERENCIAL SEAL	ВО	25-Apr	Inspected, found in good cond.
INSP. OR REPAIR HEATING ELEMENTS	ВО	25-Apr	Inspected, found in good cond.
INSPECT DRAIN LINES	ВО	25-Apr	Inspected, found in good cond.
INSP.OR REPAIR WASHING DEVICE	ВО	25-Apr	Inspected no work required
INSP. OR REP. DIFFERENTIAL PRESS.	IE	2-Apr	Inspected and calibrated.
INSP.& TEST TURBINE AIR SOLENOID	IE	2-Apr	Inspected and tested
& ALARM			The state of the s
INSP.OR REPAIR AIR/GAS THERMOCOU	IE	2-Apr	Inspected physically
INSPECT A.H. SENSING LINES	IN	23-Apr	Inspected and check, o.k
C- FANS			The street, one
INSPECT OR REPAIR FDF	AX	24-Apr	Inspected ,no work required.
NSPECT OR REPAIR IDF	AX	24-Apr	Inspected ,no work required.
NSP.OR REPAIR BEARINGS	AX	24-Apr	Inspected ,no work required.
INSP. OR REPAIR GRF	AX	30-Apr	Inspected & cleaned.
NSP. & REPAIR SHUTT OFF DAMPER	ВО	17-Apr	Inspected-maint.G.R.F. shutt off.
NSPECT IDF & FDF MOTOR	EL	16-Apr	Megger was performed,to all
			motor ok .
NSP.OR REP. CALB. OF SENSOR	IE	2-May	All the logic of the FDF and
VIBRATION IN ALL FAN			IDF was tested.
INSP. OR REPAIR SOLENOID & ALARM	IE	2-May	inspected & verified.ok

HARDWARE UPGRADE

	T	T	April 2 through May 2,1997
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
C- FAN (CONT.)			
INSP. OR REP. SCANNER FAN	ME	28-Apr	Insp.& cleaned filters
CHANGE OIL IN ALL BEARING FAN &	ME	28-Apr	Motor & fan inspected, bearing
OIL LEAKAGES			and oil found in good cond.
TEST FAN ANTILOCK SYSTEM &	ΙE	2-May	Inspected, calibrated & tested.
PNEUMATIC VALVE CONTROL		7	meportod, ballbrated & tested.
INSP. OR REP. MANOMETER AND	IN		Next program outage
THERMOMETER			Program outage
D - STEAM COIL			
WASH STEAM RADIATOR	BG	8-Apr	Water washed (high press.)
INSP. OR REPAIR I/P CONTROL VALVE	IE	2-May	Inspected & calibrated.
INSPECT STEAM RADIATOR	ME	28-Apr	Inspested & checked
INSP. OR REPAIR STEAM TRAP	ME	28-Apr	Inspested & checked, o.k
INSP. MANOMETER AND THERMOMETER	IN		No work required.
INSP. OR REPAIR REGULATOR POS.	IN	23-Apr	Inspested & calibrated , o.k
			, sale, alou ; o.n.
IV- FLUE GAS HANDLING AND MEASU.			
A- DUCTWORK			
INSP. OR REP. AIR & GAS DUCTS	ВО	17-Apr	Inspected, no work required
INSP.OR REPAIR BOILER STRUCTURE	ВО		No work required
B- INSTRUMENTATION			
B-1 OXYGEN			
INSPECT OR REPAIR O2 ANALIZERS	ΙE	2-May	Performed calibration, the
			on the oxygen probe
B-2 OPACITY			**
CLEAN LIGHT DUCT IN BOTH OPACITY	IE	2-May	Performed calibration
CHECK CALIBRATION OF BOTH SMOKE	IE	2-May	Performed maintenance in both
DETECTOR			opacimeter
INSP. RECORDER OPERATION & CONF.	IE	2-May	Performed with EPA reg.
TEST ALARM OPERATOR	IE	2-May	Tested o.k
B-3 TEMPERATURE			
INSPECT OR REPAIR MISCELANEOUS	IE	2-May	Tested and verified.

HARDWARE UPGRADE

			April 2 through May 2,1997
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
B-4 DRAFT			
INSP. OR REP. SENSING LINES	IN	23-Apr	Inspected, found in good cond.
C- SOOTBLOWER			, , , and m good cond.
INSPECT OR REP. SOOT BLOWERS	ВО	28-Apr	all sootblowers were inspected
ASSEMBLY			and found in good condition
INSP. & MAINTENANCE LIMIT SWITCH	EL	2-May	Cleaned ,inspected & tested
INSP. SOOTBLOWER ELECTRIC PANEL	EL	2-May	Local manual and auto operation
INCOPERT DETENDED			were tested
INSPECT RETRACT SOOTBLOWER -	ME	2-May	Mechanical inspection &
PACKING			maintenance of all sootblower
INPS. OR REP. SOOTBLOWER STEAM	IN	23-Apr	Inspected and calibrated both valve
REG. VAL. & PRESS. CONTROL			
INSPECT OR REPAIR THERMO DRAIN - VALVES	IN		No work required.
D- BOILER WASH			
WASH STACK AND AIR HEATER			
WASH PEN-HOUSE & DOG HOUSE DUCTS	BO	14-Apr	Washed
CLEAN BOTTOM FURNACE		14-Apr	cleaned & washed
WASH & CLEAN GAS CONDUCTS	ВО	14-Apr	cleaned
WASH & CLEAN GAS CONDUCTS WASH INDUCED FANS	ВО	14-Apr	cleaned & washed
WASH SUPERHEATER & REHEATER -	BO	14-Apr	Washed
TUBES	ВО	14-Apr	Washed
WASH LOW TEMP. SH & ECONOMIZER	ВО	111	NA
CLEAN AIR HOPER	BO	14-Apr	Washed
OLLAN AIRTHOTER	ВО	14-Apr	Cleaned
V - COMPLETE STEAM CYCLE	-		
A- PRESSURE PARTS			
CHANGE OR REP. BROKEN TUBES	ВО	24-Apr	Repaired leakage on furnace &
		LTAPI	changed thirty three water wall
			bend tubes.
INITIAL AIR TEST	ВО	24-Apr	Inspected. ok
INITIAL HIDROSTATIC TEST	ВО	24-Apr	Found leakage and repaired.
INSPECT & REPAIR PRIMARY &	ВО	26-Apr	No work required
		-0 / (p)	no noncrequied

HARDWARE UPGRADE

			April 2 through May 2,1997
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
B- FEED WATER HEATER			
INSP. OR REP. ALARMS	EL	1-May	Tested, O.K
INSPECT HYDRASTEP	IE	2-May	Next program outage
INSPECT THERMOCOUPLE	IE		No work required.
CALIBRATE I/P	ΙE	2-May	Calibrated.ok
INSP. & CALIB. I/P DEARATOR LEVEL-	ΙE	2-May	Inspected, ok
HOTWELL LEVEL			moposida, on
INSP. OR REPAIR SIDE GLASS LEVEL	ME	30-Apr	Inspected, no work required
INSP. & REPAIR HEATER IF NECESSARY	ME	30-Apr	Insp. & repair heater # 5.
MAINT. ISOLATION VALVES & OTHER -	ME	30-Apr	Next program outage
VALVES ASS.			Jan program outage
INSP. REG. VAL. AND CONTROLS	IN	14-Apr	Insp. calibrated and cleaned
INSPECT NON-RETURN VALVES TRIP -	IN	14-Apr	Inspected & tested
MECHANISM			100,00
INSP. MANOMETER THERMOMETER	· IN		No work required.
C- WATER- WALL INTEGRITY			- Marine Garage
INSPECT ECONOMIZER	ВО	26-Apr	No work required
INSPECT DRUM & HEADER	ВО	26-Apr	No work required
INSPECT DOG HOUSE	ВО	26-Apr	No work required
VI- CONDENSER WORK			work rodanou
CLEANING CONDENSER TUBES	BG	23-Apr	Hydroblasted and cleaned
URANINE TEST & BROKEN CAPS	BG	23-Apr	Test was performed, fourteen (14)
			tubes were found broken.
REPAIR HOLES AND CONDENSER	ME	1-May	Infiltration were repaired as
INFILTRATION			needed.
			Washington, and the same of th

Activit ID	, and	A Activity description	004000000000	Res du		Early Shish	APR 1	
		UEL OF TRESSURE					A LOW PROPERTY AND ADDRESS OF THE PARTY AND AD	
EC-01		UEL OIL HARDWARE FUEL OIL QUALITY						
		FUEL OIL PUMPS						
E02-08		INSP., REP. & TEST AUTO START F. O. P. BKR	T	i i	3 02APR97	02APR9	7 7	
144-10	PLIE	INSP TEST AUTO START PRESSURE SWITCH	+		03APR97	03APR97		
M02-02	PLME	INSPECT OR REPAIR PUMPS	1	-	03APR97	04APR97		
M02-04	PLME	INSPECT AND CLEAR STRAINER	-		04APR97			
M02-06		INSP. & MAINT.PUMP ISOLATION VALVES,OTHERS	1 0		07APR97	07APR97		
		INSP. & MAINTENANCE OTHER VALVE PUMP SECTION	1	1	08APR97	07APR97		
P02-06	-	INSP. REPAIR FUEL OIL RECIRCULATION VAL. &	0	1	09APR97	08APR97		
FC-01	C	TUEL OIL HEATERS			USAPR97	09APR97	.₩	
152-02		CALIBRATE VP FUEL HEATER VALVE	Το	1	02APR97			
152-04	PLIE	INSP. TEST FUEL OIL TEM. THERMOCOPLE	0			02APR97		
152-06	PLIE	INSP. TEST TEMP. FUEL OIL TRIP. & ALARM			02APR97	02APR97	1	
	200000000000000000000000000000000000000	INSPECT OR REPAIR HEATING ELEMENTS	0		03APR97	03APR97		
		INSP. OR REPAIR STEAM TRAPS	0		08APR97	08APR97		
	100000000000000000000000000000000000000	REPAIR LEAK PIPING ASSOCIATE WITH HEATER	0		C9APR97	10APR97		
P04-04			0		10APR97	11APR97	H	
P10-06		INSP. OR CHANGE THERMOMETERS & MANOMETERS			11APR97	11APR97	X	
P14-02		INSP. OR REP. STEAM REGULATION VALVE &	0	8	11APR97	14APR97	AST .	
		INSP. OR REPAIR HEATER RELIEF VALVE	0	8	14APR97	15APR97	A	
EC-01-	400000000000000000000000000000000000000	ISCOMETER INSP. & CLEAR TEST VISCOSIMETER						_
	PLIN	INSP. OR REP. EQUIPMENT FOR PACKING LEAK	0	8	15APR97	16APR97	B	
		\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	. 0	4	16APR97	17APR97	X	
		URNER CLEAN OR REPLACEMENT BURNERS SIGHT GLASS				,		
		WASH BURNERS FLOORS	0		17APR97	17APR97	M.	
	PLIE	INSP. GUNINSERT SOLENOIDE & LIMIT SWTCH	. 0		17APR97	21APR97	ANV	
	(C. CO.)	CHECK OR CHANGE NOZZLE ASSEMBLY	0	7	21APR97	22APR97	. #	
	27-11-11-11	INSP. REPAIR ALL BURNERS	0		22APR97	23APR97	Z	
			0	21	02APR97	04APR97	7	
		JRNER INSULATION VALVE INSP. LIMIT SWITCH & SOLENOIDE						
		INSP. OR REPAIR OIL / STEAM LINES & RACK VALVE	0		02APR97	02APR97	X	
08-04		INSPECT-CHANGE THERMOMETER & MANOMETERS	0		03APR97	03APR97		
			0	8	04APR97	07APR97	4387	
		JRNER MANAGEMENT SYSTEM INSPECT ALL INDICATION LIGHT ON BMS	- 61	24	74555			
		INSP. & TEST ALL IGNITERS	0			10APR97	AS7	
		INSPECT OR REPAIR SCANNERS	0			15APR97		
		INSPECT & TEST ALL MFT SIGNAL FROM DEVICES	0	_		16APR97	M	
			0	4	6APR97	16APR97	Z	
:C-01-l	i III	RIFECTAS						
TEST 02APRET	1400	AUTORIDAD ENERGIA ELECT	RICA		Throat 1	a se		_
67 APR87	00000000	CENTRAL SAN JUAN UNIDAL						
	1	ENVIROMENTAL OUTAGE INSP				1		

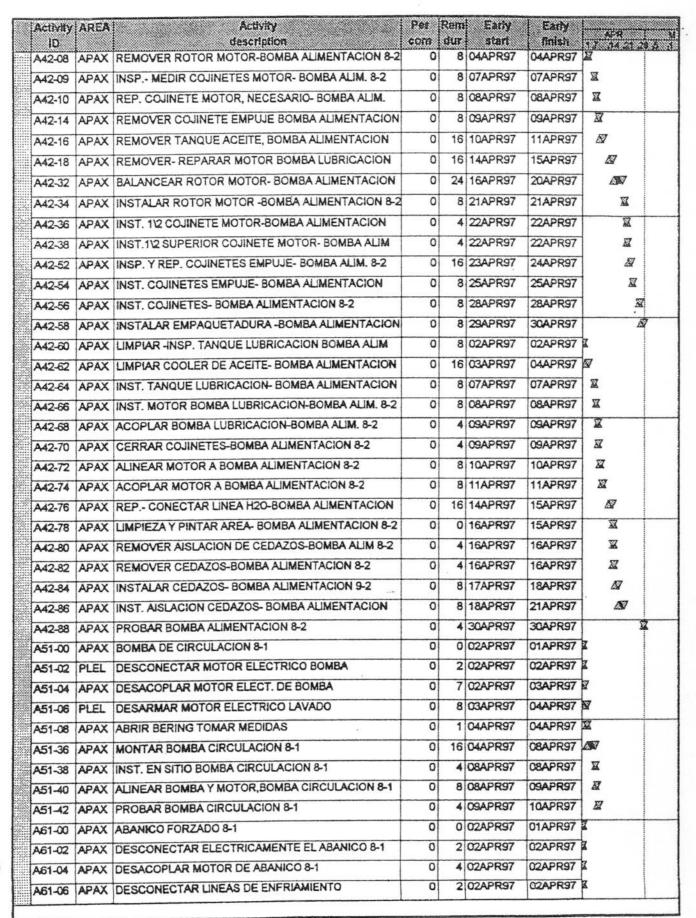
Activity ID	AREA	Activity description	#80000000000	Ren dur		Early Jinish	APR 17 14 21 2	
124-10	PLIE	INSP. LIMIT SWITCH TRIFECTAS, GUN INSERT,ECT.	0	8	15APR97		A	R. (P.)
P08-02	PLIN	INSP. OR REPAIR TRIFECTAS VALVES	0	21	02APR97	04APR97	87	
EC-02	C	DMBUSTION CONTROL			I .			
EC-02	A A	TOMIZING STEAM CONTROLS		ÁW.				
114-12	PLIE	INSPECT & CALIBRATE ATOM, STEAM PRESS, TX.	0	5	16APR97	17APR97	XX	
114-34	PLIE	INSPECT OR CALIBRATE UP ATOM PRESS.	0	5	17APR97	18APR97	₩.	
114-36	PLIE	INSP & CALIB. ATOM STEAM PRESS ALARM & TRIP.	0	14	18APR97	21APR97	AN7	
114-38	PLIE	INSP & TEST ATOM STEAM TERMOCOUPLE	0	14	21APR97	23APR97	207	
114-40	PLIE	INSPECT OR CALIB. ATOM STEAM TEMP REGULATOR	0	4	23APR97	24APR97	N N	
P14-10	PLIN	INSP. OR REPAIR ATOMIZING STEAM REGULATOR	0	8	24APR97	25APR97	ZZ.	
EC-02-	ВС	OMBUSTION CONTROL SYSTEM) 8688 874 888					
116-02	PLIE	INSP. & CALIB. FUEL OIL SUPPLY PRESS	0	4	02APR97	02APR97	X	
116-04	PLIE	CALIB. LOW OIL PRESS ALARM AND TRIP	0	4	08APR97	08APR97	X .	
116-06	PLIE	INSP. & CALIBRATE I/P FUEL OIL PRESS REGULATOR	0	21	08APR97	11APR97	AST	
116-09	PLIE	TEST ALL MEASURE SIGNAL ON VA CONTROL LOOP	0	14	11APR97	14APR97	AS7	
116-35	PLIE	TEST SOLENOID EQUIPMENT	0	8	02APR97	03APR97	7	
P16-06	PLIN	INSP. & REPAIR PROPANE SYST. & VENT. VALVE	0		03APR97	04APR97		
P16-08	PLIN	INSP. OR REPAIR OIL RECIRCULATING VALVES	0		04APR97	07APR97		
P16-10	PLIN	INSP. & CHANGE MANOMETER & THERMOMETERS	0		07APR97	07APR97	×	
		LARM PANEL	Section 1	58000	017 1 1107	Jorra Kor		
**********		INSP. OR REPAIR EQUIPMENT ALARM	ol	21	02APR97	04APR97	S 7	
EC-03- B22-02	A-1 [APBO	/INDBOX DIFFUSERS/SWIRLERS INSP. OR CALIB. SWIRLES / DIFFUSER GUN DISTANCE	0	4	02APR97	02APR97	Z	
B22-04	APBO	INSP. OR REPAIR SWIRLES / DIFFUSER	0	4	02APR97	02APR97	Z I	
EC-03-	A-2 P	NR SLIDES						
B20-04	APBO	NSP. OR REPAIR AIR & GAS DAMPERS	0	4	02APR97	02APR97	Z	
120-02	PLIE	INSPECT OR REPAIR SOLENOID VALVES	0	8	02APR97	CSAPR97	7	
120-04	PLIE	INSP. & TEST PROXIMOTOR, SWITCH POSITION	0	8	03APR97	04APR97	SZ	
P20-02	PLIN	INSP. & CLEAN FURNACE AND WIND BOX PRESS	0	4	04APR97	04APR97	X ·	
EC-03-	A-3 F	REGISTER						
		AMPERS				,	_	
		INSPECT OR REPAIR AIR AND GAS DAMPERS	0	16	02APR97	03APR97	¥	
		INSP. OR REPAIR INNER & OUTER CASING	0	20	04APR97	08APR97	AS	
EC-03-	A-8 T	ILTING MECHANISM						
		R PRE-HEATER						
		INSPECT SOOTBLOWERS	0	_	D2APR97	02APR97		
		INSPECT REPAIR TURBINE AIR DRIVER MOTOR	0		2APR97	02APR97		
		INSP. OR REPAIR SECTOR PLATES	0)2APR97	03APR97	7	
	APBO	INSPECT & REPAIR ROTOR CASING	0	16	2APR97	03APR97		
				210	MADDOT	DAADDOT		140
834-16		INSPECT LUBRICATION SYSTEM INSPECT AXIAL & CIRCUNFERENCIAL SEALS	0	8	MAPR97	04APR97	SX	



B34-22 A B34-24 A I34-12 Pi I34-16 Pi I34-18 Pi P34-02 Pi EC-03-C A36-02 Ai A36-04 Ai	PBO PBO PBO PLIE PLIE PLIE PAX PAX	INSP. OR REPAIR HEATING ELEMENTS INSPECT DRAIN LINES INSPECT OR REPAIR WASHING DEVICE INSP. OR REP. DIFFERENTIAL PRESSURE INSP. & TEST TURBINE AIR SOLENOID & ALARM INSPECT OR REPAIR AIR / GAS THERMOCOUPLE INSPECT A.H. SENSING LINES	0 0 0 0 0 0 0 0	8 8 8 5	400000000000000000000000000000000000000	Early finish 09APR97 10APR97 11APR97 15APR97	S	
B34-22 A B34-24 A I34-12 Pi I34-16 Pi I34-18 Pi P34-02 Pi EC-03-C A36-02 Ai A36-04 Ai	PBO PBO PLIE PLIE PLIE PAX PAX	INSPECT DRAIN LINES INSPECT OR REPAIR WASHING DEVICE INSP. OR REP. DIFFERENTIAL PRESSURE INSP. & TEST TURBINE AIR SOLENOID & ALARM INSPECT OR REPAIR AIR / GAS THERMOCOUPLE INSPECT A.H. SENSING LINES	0 0 0	8 8 8 5	09APR97 10APR97 11APR97 14APR97	10APR97 11APR97 14APR97 15APR97	# # # # # # # # # # # # # # # # # # #	
B34-24 A I34-12 Pi I34-16 Pi I34-18 Pi P34-02 Pi EC-03-C A36-02 Ai A36-04 Ai	PHE PLIE PLIE PLIE PLIE PAX PAX	INSPECT OR REPAIR WASHING DEVICE INSP. OR REP. DIFFERENTIAL PRESSURE INSP. & TEST TURBINE AIR SOLENOID & ALARM INSPECT OR REPAIR AIR / GAS THERMOCOUPLE INSPECT A.H. SENSING LINES	0 0	8 8 5	10APR97 11APR97 14APR97	11APR97 14APR97 15APR97	2007 2007	
I34-12 Pi I34-16 Pi I34-18 Pi P34-02 Pi EC-03-C A36-02 A46-04	PLIE PLIE PLIE PAX PAX	INSP. OR REP. DIFFERENTIAL PRESSURE INSP. & TEST TURBINE AIR SOLENOID & ALARM INSPECT OR REPAIR AIR / GAS THERMOCOUPLE INSPECT A.H. SENSING LINES ANS	0 0	8 5 14	11APR97 14APR97	14APR97 15APR97	AS	
134-16 Pi 134-18 Pi P34-02 Pi EC-03-C A36-02 Ai A36-04 Ai	PLIE PLIE PLIE PAX PAX	INSP. & TEST TURBINE AIR SOLENOID & ALARM INSPECT OR REPAIR AIR / GAS THERMOCOUPLE INSPECT A.H. SENSING LINES ANS	0	5	14APR97	15APR97		
I34-18 PI P34-02 PI EC-03-C A36-02 AI A36-04 AI A36-04 AI PI PI PI PI PI PI PI	LIE LIE PAX PAX	INSPECT OR REPAIR AIR / GAS THERMOCOUPLE INSPECT A.H. SENSING LINES ANS	0	14			₽ P	
P34-02 P1 EC-03-C A36-02 A/ A36-04 A/	PAX	INSPECT A.H. SENSING LINES			02APR97	03APR97	1	
EC-03-C A36-02 A/ A36-04 A/	PAX PAX	ANS	0	-			a	
A36-02 AI	PAX		0	8	03APR97	04APR97	Ø	
A36-04 A	PAX	INSPECT OR REPAIR FORCE DRAFT FAN						
			0	20	02APR97	04APR97		
A36-06 A		INSPECT OR REPAIR INDUCED DRAFT FAN	0	10	04APR97	07APR97	AST	
1701	PAX	INSPECT & REPAIR BEARINGS	0	10	07APR97	08APR97	M	
A36-08 A	PAX	INSP. OR REPAIR RECIRCULATING GAS FAN	0	5	09APR97	09APR97	3	
B36-02 A	P80	INSPECT OR REPAIR SHUTT OFF DAMPERS	0	8	09APR97	10APR97	M	
E36-02 PI	LEL	INSPECT IDF & FDF MOTOR	0	8	10APR97	11APR97	M	
136-02 PL	LIE	INSP. OR REP. CALIB. OF SENSOR VIBRAT. ALL FANS	0	15	11APR97	15APR97	ASSV	
136-06 PL	LIE	INSPECT OR REPAIR SOLENOID & ALARMS	0	8	15APR97	16APR97	EZ	
136-10 PL	LIE	INSPECT & REPAIR UP FOR EACH FAN	0	10	16APR97	17APR97	. AT	
M36-02 PL	LME	INSPECT OR REPAIR SCANNER FAN	0	8	17APR97	18APR97	æ	
M36-04 PL	LME	CHANGES OIL IN ALL BEARING FAN & OIL LEAKAGES	0	8	18APR97	21APR97	287	
P36-02 PL	LIN	TEST FAN ANTILOCK SYSTEM & PNEUMATIC	0	8	21APR97	22APR97	27	
P36-04 PL	LIN I	INSP. OR REP. MANOMETER AND THERMOMETER	0	7	22APR97	23APR97	<i>A</i>	
EC-03-D	ST	TEAM COILS						
G38-02 PL	LBG	WASH STEAM RADIATOR	0	8	02APR97	02APR97	X .	
138-04 PL	LE I	INSPECT OR REPAIR UP CONTROL VALVE	0	3	03APR97	03APR97	Œ.	
M38-02 PL	ME	NSPECT STEAM RADIATOR	0	8	23APR97	24APR97	Æ	
M38-04 PL	ME	NSPECT OR REPAIR STEAM TRAPS	0	8	24APR97	25APR97	A	
N38-02 PL	IN I	NSPECT MANOMETER & THERMOMETER	0	8	02APR97	02APR97	z I	
P38-02 PL	IN I	NSP. OR REPAIR REGULATOR POSITIONER	0	4	D3APR97	03APR97	2	-
EC-04	FLU	IE GAS HANDLING						
		CKWORK		******	***************************************			
		NSP. & REPAIR AIR & GAS DUCTS	0	21	DZAPR97	04APR97	Ø	
		NSPECT OR REPAIR BOILER STRUCTURE	0	14	MAPR97	08APR97		
EC-04-B-4	********							
# L		NSPECT OR REPAIR SENSING LINES	0	8 (XXAPR97	09APR97	ZZ .	
		OTBLOWERS NSPECT OR REP. SOOT BLOWERS ASSEMBLY	<u> </u>	~1	XADDOZ (
		NSP. & MAINTENANCE LIMIT SWITCH	0			04APR97		1
5		NSPECT SOOTBLOWER ELECTRIC PANEL	0			10APR97		
		NSPECT RETRACT SOOTBLOWERS PACKING	0			11APR97	EZ ARTY	
N52-02 PLI		NSP. OR REP. SOOTBLOWER STEAM REG. VAL. &				28APR97	557	
P52-04 PLI		NSPECT OR REPAIR THERMO DRAINS VALVES	0			29APR97	A	
			0	4 2	9APR97	29APR97	2	
		ILER WASH	O	15 0	2APR97 (03APR97 S	7	
100	, V	THE STANFANCE OF THE STANFANCE		.5	La val	War Kar	1	\dashv

Activity	AREA	Activity		Rem dur		Early finish	APR	Т
ID 854-04	CONT	description WASH PEN-HOUSE & DOG HOUSE DUCTS	0	000000000000000000000000000000000000000	03APR97	04APR97	17 34 21 2 N	20.1
38		CLEAN BOTTOM FURNACE	0	5	04APR97	07APR97	AST	
361		WASH & CLEAN GAS CONDUCTS (ECONOMISER	0	15	07APR97	09APR97	<i>S</i> 7	
331 1		WASH INDUCED FANS	0		09APR97	09APR97	Ø	
		WASH SUPERHEATER & REHEATER TUBES	0		10APR97	10APR97	¥	-
	N. Carlotte	WASH LOW TEMP. SUPERHEATER & ECONOMISER	0		10APR97	11APR97	87	
W			0		11APR97	11APR97	Z	
SS		CLEAN AIR HOPER		3	11AFRS1	1 IACKS!		-
1007214 2 2 4 44414		MPLETE STEAM CYCLE						
EC-05-	APRO	RESSURE PARTS CHANGE OR REP. BROKEN TUBES	0	42	02APR97	09APR97	78.7	
931		INITIAL AIR TEST	0	4	09APR97	09APR97	X	
983 I		INITIAL HIDROSTATIC TEST	0		09APR97	10APR97	87	
8333		INSPECT & REPAIR PRIMARY & SECONDARY S.H.	0		10APR97	10APR97	W	
			0		10APR97	11APR97	87	
333		INSPECT REHEATER	0		11APR97	11APR97	Z	<u> </u>
222		INSPECT PLATTEN SUPERHEATER				14APR97	AST	
		FINAL HIDROTEST	0		11APR97		XX	
		FINISH WORK UNIT #8	0	U	21APR97	21APR97	Δ 6 .	ļ
00004011119119119191919	8 F	EED WATER HEATERS	0	9	02APR97	02APR97	g	
E58-02		INSPECT OR REPAIR ALARMS	0		03APR97	04APR97		
	PUE	INSPECT HYDROSTEP	0		04APR97	09APR97		
158-04	PLIE	INSPECT THERMOCOUPLE			10APR97	10APR97	¥	
158-06	PUE	CALIBRATE IP	0		10APR97	11APR97	E	
158-08	PLIE	INSP. & CALIB. VP DEARATOR LEVEL, HOTWELL	0	_			<u> </u>	
130	Name and Associated	INSPECT OR REPAIR SIDE GLASS LEVEL	0		25APR97	25APR97	- A	
983	Participant of the Control	INSP. & REPAIR HEATER IF NECESSARY	0		21APR97	22APR97	1	
M58-06	PLME	MAINT, ISOLATION VALVES & OTHER VALVES ASS.	0		22APR97	23APR97	A	
P58-02	PLIN	INSPECT REGULATOR VALVES AND CONTROLS	0		23APR97	24APR97	Z	
P58-04	THE STATE OF THE S	INSPECT NON-RETURN VALVES TRIP MECHANISM	0		24APR97	24APR97	. 🗷	
P58-10	PLIN	INSPECT MANOMETER THERMOMETER	0	8	24APR97	25APR97	₩.	
EC-05-	C V	VATER-WALL TUBE INTEGRITY				leas anna		
2000		INSPECT ECONOMISER	0		25APR97	28APR97	AS	I
SSS\$		INSPECT DRUM & HEADER	0		28APR97	28APR97	X	i
B70-08	APBO	INSPECT DOG HOUSE	0	2	28APR97	29APR97	ž.	9
EC-06	CC	NDENSER WORKS		46	∞40007	03APR97	67	
20001		LEANING CONDENSER TUBES	0		02APR97		B	
C0004	A 1 2 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	URANINE TEST & BROKEN TUBES CAPS	0		21APR97	22APR97	A	
M10-06		REPAIR HOLES AND CONDENSER INFILTRATIONS	0	8	22APR97	23APR97		
EC-08- EC-08-	MC A C B C C F D F	THER WORKS DNITORSTELENETRY SYSTEM ONTINUOS OXYGEN MONITOR ONTINUOS OPACITY MONITOR UEL OIL MONITOR UEL FLOW RATE MONITOR PROSS POWER MONITOR						

Activity ID	AREA	Activity description	Pee	$\pm \infty$	S 2000 (000 (000 (000 (000 (000 (000 (00	Early finish	APR 17 34 25 2	
EC-09 EC-09 EC-09	-A A -B C	ONITORS VARAGE COLD END A HITEMPERATURE MONI DIFFERENCIAL PRESS, ACVOSS AH MONITOR SOOTBLOWER STEAM PRESSURE MONITOR	TOR					
100000000000000000000000000000000000000	E F	URNACE PRESS, MONITOR EED WATER TEMP, AT ECONOMIZER INLET MO XYGEN MONITOR	OTINC	R				8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
144-04	PLIE	INSPECT OR REPAIR 02 ANALIZERS	0	15	02APR97	03APR97	V	
EC-09 146-02	-G (PACIMETER MONITOR CLEAN LIGHT DUCT IN BOTH OPACITY MONITOR	0	20	02APR97	04APR97	V	
146-04	PLIE	CHECK CALIBRATION OF BOTH SMOKE DETECTORS	0	25	04APR97	09APR97	787	
146-06	PLIE	INSPECT RECORDES OPERATION & CONFIGURATION	0	8	09APR97	10APR97		
146-08	PLIE	TEST ALARM OPERATOR	0	8	10APR97	11APR97		
EC-09		UEL FLOW RATE MONITOR			1	1,	-	
EC-09 EC-10	I TE	MPERATURE MONITOR TRA WORKS NO ENVIROMENTAL INSPECTION UXILIARES	i					
COCCOOR CALEARAN CARACARA		DESACOPLAR MOTOR Y BOMBA ALIMENTAR 8-1	0	8	02APR97	02APR97	Z	
		REMOVER COJINETES MOTOR-BOMBA ALIMENTAR	.0		03APR97	03APR97		
A41-14	APAX	REM. COJINETE DE EMPUJE -BOMBA ALIM. 8-1	0	3	04APR97	04APR97		
		REM. TANQUE DE ACEITE - BOMBA ALIMENTAR 8-1	0	16	07APR97	08APR97	. Z	
A41-18	APAX	REMREPARAR MOTOR BOMBA LUBBOMBA ALIM.	0	16	09APR97	10APR97	87	
22		BALANCEAR ROTOR MOTOR BOMBA ALIMENTAR 8-1	0		11APR97	15APR97	AN	
		INST. COJINETES- BOMBA ALIMENTAR 8-1	0		16APR97	16APR97	- I	
		INSP. Y REP. COJINETES EMPUJE- BOMBA ALIM. 8-1	0		17APR97	18APR97	87	
		INST. COJINETES EMPUJE- BOMBA ALIMENTAR 8-1	0		21APR97	21APR97	×	
A41-58	1,024 (35,000,000)	INSTALAR EMPAQUETADURA BOMBA ALIM 8-1	0		22APR97	22APR97	X	
	25 miletario 20	LIMPIAR-INSP. TANQUE LUBRICACION BOMBA ALIM	0		23APR97	23APR97	2	
A41-62	APAX	LIMPIAR COOLER ACEITE BOMBA ALIMENTACION 8-1	0		02APR97	03APR97		
		INSTALAR TANQUE LUBRICACION	0		04APR97	05APR97	. 1	
2000		INST. MOTOR BOMBA LUBRICACION-BOMBA ALIM 8-1	0		07APR97	07APR97		
		ACOPLAR BOMBA LUBRICACION-BOMBA ALIM 8-1	0		08APR97	08APR97	x	
3333		CERRAR COJINETES- BOMBA ALIMENTACION 8-1	0		08APR97	08APR97	<u> </u>	
8888		ALINEAR MOTOR A BOMBA- BOMBA ALIMENTACION	0		09APR97	09APR97	H	- 1
		ACOPLAR MOTOR A BOMBA ALIMENTACION 8-1	0		10APR97	10APR97	Ø	
		REPCONECTAR LINEAS AGUA-BOMBA ALIM 8-1	0		11APR97	14APR97		
600		LIMPIEZA-PINTAR AREA BOMBA ALIMENTACION 8-1	0		15APR97	14APR97	¥	1
		REM. AISLACION DE CEDAZO- BOMBA ALIMENTACION	0		15APR97	15APR97	22	
3333		REMOVER-LIMPIAR CEDAZO, BOMBA ALIMENTACION	0		15APR97	15APR97	XZ	
****		INSTALAR CEDAZOS- BOMBA ALIMENTACION 8-1	0		16APR97	16APR97	Ø	- 1
888		INSTALAR AISLACION AREA CEDAZOS-BOMBA	0		17APR97	18APR97	<i>B</i> 7	
3333		PROBAR BOMBA ALIMENTACION 8-1	0		24APR97	24APR97	Z	
303 I		DESACOPLAR MOTOR -BOMBA ALIMENTACION 8-2	0		02APR97	02APR97		
939		REMOVER COJINETE MOTOR-BOMBA ALIMENTACION	0		03APR97	03APR97		1
742-00	^r^^	VEWOATI COMMETT NO TON- COMMON VEWENT (VOICE)				- 1101		



A61-12 A61-14 A61-16 A61-18 A61-20 A61-22 A61-24 A61-26 A62-00 A62-02 A62-04 A62-04	APAX APAX APAX APAX APAX APAX APAX APAX	REMOVER MOTOR PARA LIMPIEZA ELEC. LAVADO E INSP. DE MOTOR(REP. DE SER BALANCEAR ROTOR EN T.M.G. DE SER NECESARIO MONTAR MOTOR DEL ABANICO 8-1 MONTAR BEARING ABANICO 8-1 INSTALAR LINIAS DE ENFRIAMIENTO ALINEAR MOTOR CON ABANICO ACOPLAR MOTOR Y ABANICO PROBAR ABANICO FORZADO 8-1 ABANICO FORZADO 8-2 DESCONECTAR ELECTRICAMENTE EL ABANICO 8-2	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 4 4 2 4 4	start C3APR97 C3APR97 C4APR97 C4APR97 C7APR97 C7APR97 C7APR97 C8APR97	7mlsh 03APR97 03APR97 04APR97 04APR97 07APR97 07APR97 08APR97	2 2	5I
A61-12 A61-14 A61-16 A61-18 A61-20 A61-22 A61-24 A61-26 A62-00 A62-02 A62-04 A62-04	APAX APAX APAX APAX APAX APAX APAX APAX	LAVADO E INSP. DE MOTOR(REP. DE SER BALANCEAR ROTOR EN T.M.G. DE SER NECESARIO MONTAR MOTOR DEL ABANICO 8-1 MONTAR BEARING ABANICO 8-1 INSTALAR LINIAS DE ENFRIAMIENTO ALINEAR MOTOR CON ABANICO ACOPLAR MOTOR Y ABANICO PROBAR ABANICO FORZADO 8-1 ABANICO FORZADO 8-2	0 0 0 0 0 0 0 0 0	4 4 2 4 4	O3APR97 O4APR97 O4APR97 O7APR97 O7APR97 O7APR97 O8APR97	03APR97 03APR97 04APR97 04APR97 07APR97 07APR97 08APR97		
A61-14 A61-16 A61-18 A61-20 A61-22 A61-24 A61-26 A62-00 A62-02 A62-04 A62-04	APAX APAX APAX APAX APAX APAX APAX APAX	BALANCEAR ROTOR EN T.M.G. DE SER NECESARIO MONTAR MOTOR DEL ABANICO 8-1 MONTAR BEARING ABANICO 8-1 INSTALAR LINIAS DE ENFRIAMIENTO ALINEAR MOTOR CON ABANICO ACOPLAR MOTOR Y ABANICO PROBAR ABANICO FORZADO 8-1 ABANICO FORZADO 8-2	0 0 0 0	4 4 2 4 4	O4APR97 O4APR97 O7APR97 O7APR97 O7APR97 O8APR97	04APR97 04APR97 07APR97 07APR97 08APR97	M M M	
A61-16 A61-18 A61-20 A61-22 A61-24 A61-26 A62-00 A62-02 A62-04 A62-04	APAX APAX APAX APAX APAX APAX APAX	MONTAR MOTOR DEL ABANICO 8-1 MONTAR BEARING ABANICO 8-1 INSTALAR LINIAS DE ENFRIAMIENTO ALINEAR MOTOR CON ABANICO ACOPLAR MOTOR Y ABANICO PROBAR ABANICO FORZADO 8-1 ABANICO FORZADO 8-2	0 0	4 4 2 4	04APR97 07APR97 07APR97 07APR97 08APR97	04APR97 07APR97 07APR97 08APR97	X X	
A61-18 A61-20 A61-22 A61-24 A61-26 A62-00 A62-02 A62-04 A62-04	APAX APAX APAX APAX APAX APAX APAX	MONTAR BEARING ABANICO 8-1 INSTALAR LINIAS DE ENFRIAMIENTO ALINEAR MOTOR CON ABANICO ACOPLAR MOTOR Y ABANICO PROBAR ABANICO FORZADO 8-1 ABANICO FORZADO 8-2	0	4 4	07APR97 07APR97 07APR97 08APR97	07APR97 07APR97 08APR97	X X	
A61-20 A61-22 A61-24 A61-26 A62-00 A62-02 A62-04 A62-04	APAX APAX APAX APAX APAX	INSTALAR LINIAS DE ENFRIAMIENTO ALINEAR MOTOR CON ABANICO ACOPLAR MOTOR Y ABANICO PROBAR ABANICO FORZADO 8-1 ABANICO FORZADO 8-2	0	4	07APR97 07APR97 08APR97	07APR97 08APR97	X X	
A61-22 A61-24 A61-26 A62-00 A62-02 A62-04 A62-06	APAX APAX APAX APAX	ALINEAR MOTOR CON ABANICO ACOPLAR MOTOR Y ABANICO PROBAR ABANICO FORZADO 8-1 ABANICO FORZADO 8-2	0	4	07APR97 08APR97	08APR97	A	
A61-24 A61-26 A62-00 A62-02 A62-04 A62-06	APAX APAX APAX APAX	ACOPLAR MOTOR Y ABANICO PROBAR ABANICO FORZADO 8-1 ABANICO FORZADO 8-2	0	4	C8APR97			
A61-26 A62-00 A62-02 A62-04 A62-06	APAX APAX APAX	PROBAR ABANICO FORZADO 8-1 ABANICO FORZADO 8-2	0			08APR97	Ø	
A62-00 A62-02 A62-04 A62-06	APAX	ABANICO FORZADO 8-2	-	2	OQADDOZ			
A62-02 A62-04 A62-06	APAX		0		COMPKA	08APR97	M	
A62-04 A62-06	3.55.5.5.5	DESCONECTAD ELECTRICAMENTE EL ABANICO 8.2		0	02APR97	01APR97	Z .	
A62-06	APAX	DESCONECTAN ELECTRICAMENTE EL ADAMICO 6-2	0	2	02APR97	02APR97	X	
		DESACOPLAR MOTOR DE ABANICO 8-2	0	4	02APR97	02APR97	Z	-
	APAX	DESCONECTAR LINEAS DE ENFRIAMIENTO	0	2	02APR97	02APR97	Z .	
A62-08	APAX	ABRIR BEARING TOMAR MEDIDAS (REP. DE SER	0	4	03APR97	03APR97	Z ·	
A62-10	APAX	REMOVER MOTOR PARA LIMPIEZA ELEC.	0	4	03APR97	03APR97	Ø	
A62-12	APAX	LAVADO E INSP. DE MOTOR(REP. DE SER NECES)	0	4	04APR97	04APR97	X	
A62-14	APAX	BALANCEAR ROTOR EN T.M.G. DE SER NECESARIO	0	4	04APR97	C4APR97	M	-
A62-16	APAX	MONTAR MOTOR DEL ABANICO 8-2	0	4	07APR97	07APR97	X	
A62-18	APAX	MONTAR BEARING ABANICO 8-2	0	4	07APR97	07APR97	¥	
A62-20	APAX	INSTALAR LINIAS DE ENFRIAMIENTO	0	2	OBAPR97	08APR97	A	
A62-22	APAX	ALINEAR MOTOR CON ABANICO	0	4	08APR97	08APR97	X	
A62-24	APAX	ACOPLAR MOTOR Y ABANICO	0	4	08APR97	09APR97	A	\dashv
462-26	APAX	PROBAR ABANICO FORZADO 8-2	0	2	09APR97	09APR97	X	
A62-30	APAX	ACONDICIONAR CONTROL VANES-ABANICO	0	8	09APR97	10APR97	Z	
1 62-99	APAX	PROBAR ABANICO FORZADO 8-2	0	4	10APR97	10APR97	M	
A70-00	APAX	ABANICO RECIRCULAR GASES	0	0	02APR97	01APR97	Z	1
70-02	APAX	DESC. ELECTRICAMENTE G.R.F.	0	2	02APR97	02APR97	X	-
70-04	APAX	DESACOPLAR MOTOR DE ABANICO G.R.F.	0	4	02APR97	02APR97	ž į	-
70-06	APAX	DESCONECTAR LINEAS DE ENFRIAMIENTO	0	2	02APR97	02APR97	Z	1
70-08	APAX	ABRIR BEARING TOMAR MEDIDAS (REP. DE SER	0	4	03APR97	03APR97	Z	
70-10	APAX	REMOVER MOTOR PARA LIMPIEZA ELEC.	0	4	03APR97	03APR97	7	
70-12	APAX	LAVADO E INSP. DE MOTOR(REP. DE SER NECES)	0	4	04APR97	04APR97	X	\dashv
70-14	APAX	BALANCEAR ROTOR EN T.M.G. DE SER NECESARIO	0	4	04APR97	04APR97	EZ .	
70-16	APAX	MONTAR MOTOR DEL ABANICO G.R.F.	0	4	07APR97	07APR97	×	1
70-18	APAX	MONTAR BEARING ABANICO G.R.F.	0	4	07APR97	07APR97	X	
70-20	APAX	INSTALAR LINIAS DE ENFRIAMIENTO G.R.F.	0	2	08APR97	08APR97	X	
70-22	APAX	ALINEAR MOTOR CON ABANICO G.R.F.	0	4	08APR97	08APR97	2	\dashv
70-24	APAX	ACOPLAR MOTOR Y ABANICO G.R.F.	0	4	DBAPR97	09APR97	Z	
70-26	APAX	PROBAR ABANICO G.R.F.	0	2	09APR97	09APR97	X	
81-00	APAX	ABANICO INDUCIDO 8-1	0	0	02APR97	01APR97	(
81-02	APAX	DESC. ELECTRICAMENTE INDUCIDO ABANICO 8-1	0	2	D2APR97	02APR97		
81-04	APAX	DESACOPLAR MOTOR DE ABANICO INDUCIDO 8-1	0	4	02APR97	02APR97		
	A62-12 A62-14 A62-16 A62-18 A62-20 A62-22 A62-24 A62-26 A62-30 A70-02 A70-02 A70-06 A70-08 A70-10 A70-12 A70-16 A70-16 A70-16 A70-18 A70-20	A62-12 APAX A62-14 APAX A62-16 APAX A62-18 APAX A62-20 APAX A62-20 APAX A62-21 APAX A62-24 APAX A62-26 APAX A62-30 APAX A70-02 APAX A70-02 APAX A70-04 APAX A70-06 APAX A70-10 APAX A70-10 APAX A70-10 APAX A70-10 APAX A70-11 APAX A70-16 APAX A70-18 APAX A70-20 APAX A70-20 APAX A70-20 APAX A70-20 APAX A70-20 APAX A70-20 APAX A70-20 APAX A70-20 APAX A70-20 APAX A70-20 APAX A70-20 APAX A70-20 APAX A70-20 APAX	A62-22 APAX ALINEAR MOTOR CON ABANICO A62-24 APAX ACOPLAR MOTOR Y ABANICO A62-26 APAX PROBAR ABANICO FORZADO 8-2 A62-30 APAX ACONDICIONAR CONTROL VANES-ABANICO	A62-12 APAX LAVADO E INSP. DE MOTOR(REP. DE SER NECES) 0 A62-14 APAX BALANCEAR ROTOR EN T.M.G. DE SER NECESARIO 0 A62-16 APAX MONTAR MOTOR DEL ABANICO 8-2 0 A62-18 APAX MONTAR BEARING ABANICO 8-2 0 A62-20 APAX INSTALAR LINIAS DE ENFRIAMIENTO 0 A62-21 APAX ALINEAR MOTOR CON ABANICO 0 A62-22 APAX ALINEAR MOTOR Y ABANICO 0 A62-26 APAX PROBAR ABANICO FORZADO 8-2 0 A62-30 APAX ACONDICIONAR CONTROL VANES-ABANICO 0 A62-30 APAX PROBAR ABANICO FORZADO 8-2 0 A70-00 APAX ABANICO RECIRCULAR GASES 0 A70-01 APAX DESC. ELECTRICAMENTE G.R.F. 0 A70-04 APAX DESC. ELECTRICAMENTE G.R.F. 0 APAX DESCONECTAR LINEAS DE ENFRIAMIENTO 0 APAX ABRIR BEARING TOMAR MEDIDAS (REP. DE SER 0 A70-10 APAX REMOVER MOTOR PARA LIMPIEZA ELEC. 0 A70-11 APAX LAVADO E INSP. DE MOTOR(REP. DE SER NECES) 0 A70-12 APAX LAVADO E INSP. DE MOTOR(REP. DE SER NECES) 0 A70-13 APAX MONTAR MOTOR DEL ABANICO G.R.F. 0 A70-14 APAX BALANCEAR ROTOR EN T.M.G. DE SER NECESARIO 0 A70-15 APAX MONTAR MOTOR DEL ABANICO G.R.F. 0 A70-16 APAX MONTAR MOTOR DEL ABANICO G.R.F. 0 A70-17 APAX INSTALAR LINIAS DE ENFRIAMIENTO G.R.F. 0 A70-20 APAX INSTALAR LINIAS DE ENFRIAMIENTO G.R.F. 0 A70-21 APAX ALINEAR MOTOR CON ABANICO G.R.F. 0 A70-22 APAX ALINEAR MOTOR CON ABANICO G.R.F. 0 APAX ABANICO INDUCIDO 8-1 81-00 APAX ABANICO INDUCIDO 8-1 0 APAX ABANICO INDUCIDO 8-1 0 APAX ABANICO INDUCIDO ABANICO 8-1	A62-12 APAX LAVADO E INSP. DE MOTOR(REP. DE SER NECES) A62-14 APAX BALANCEAR ROTOR EN T.M.G. DE SER NECESARIO A62-16 APAX MONTAR MOTOR DEL ABANICO 8-2 A62-18 APAX MONTAR BEARING ABANICO 8-2 A62-20 APAX INSTALAR LINIAS DE ENFRIAMIENTO A62-24 APAX ALINEAR MOTOR CON ABANICO A62-25 APAX ALINEAR MOTOR Y ABANICO A62-26 APAX PROBAR ABANICO FORZADO 8-2 A62-30 APAX ACONDICIONAR CONTROL VANES-ABANICO APAX ABANICO RECIRCULAR GASES AFAX DESC. ELECTRICAMENTE G.R.F. A70-00 APAX ABANICO RECIRCULAR GASES A70-00 APAX ABRIR BEARING TOMAR MEDIDAS (REP. DE SER A70-00 APAX ABRIR BEARING TOMAR MEDIDAS (REP. DE SER A70-10 APAX REMOVER MOTOR PARA LIMPIEZA ELEC. A70-11 APAX CHAVADO E INSP. DE MOTOR (REP. DE SER NECES) A70-12 APAX LAVADO E INSP. DE MOTOR (REP. DE SER NECES) A70-14 APAX BALANCEAR ROTOR EN T.M.G. DE SER NECESARIO A70-15 APAX MONTAR MOTOR DEL ABANICO G.R.F. A70-16 APAX MONTAR MOTOR DEL ABANICO G.R.F. A70-17 APAX BALANCEAR ROTOR EN T.M.G. DE SER NECESARIO A70-18 APAX MONTAR MOTOR DEL ABANICO G.R.F. A70-19 APAX MONTAR MOTOR DEL ABANICO G.R.F. A70-10 APAX MONTAR MOTOR DEL ABANICO G.R.F. A70-11 APAX BALANCEAR ROTOR EN T.M.G. DE SER NECESARIO A70-12 APAX MONTAR MOTOR DEL ABANICO G.R.F. A70-14 APAX MONTAR MOTOR DEL ABANICO G.R.F. A70-15 APAX MONTAR MOTOR CON ABANICO G.R.F. A70-20 APAX INSTALAR LINIAS DE ENFRIAMIENTO G.R.F. A70-21 APAX ALINEAR MOTOR CON ABANICO G.R.F. A70-22 APAX ALINEAR MOTOR CON ABANICO G.R.F. A70-24 APAX ACOPLAR MOTOR Y ABANICO G.R.F. A70-25 APAX PROBAR ABANICO G.R.F. B1-00 APAX ABANICO INDUCIDO 8-1 B1-00 APAX ABANICO INDUCIDO 8-1 B1-00 APAX ABANICO INDUCIDO ABANICO B-1 O 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	AG2-12 APAX LAVADO E INSP. DE MOTOR (REP. DE SER NECES) 0 4 04APR97 AG2-14 APAX BALANCEAR ROTOR EN T.M.G. DE SER NECESARIO 0 4 04APR97 AG2-16 APAX MONTAR MOTOR DEL ABANICO 8-2 0 4 07APR97 AG2-18 APAX MONTAR BEARING ABANICO 8-2 0 4 07APR97 AG2-20 APAX INSTALAR LINIAS DE ENFRIAMIENTO 0 2 08APR97 AG2-22 APAX ALINEAR MOTOR CON ABANICO 0 4 08APR97 AG2-24 APAX ACOPLAR MOTOR Y ABANICO 0 5 09APR97 AG2-29 APAX PROBAR ABANICO FORZADO 8-2 0 0 02APR97 AG2-30 APAX ACONDICIONAR CONTROL VANES-ABANICO 0 1 10APR97 AG2-30 APAX ABANICO RECIRCULAR GASES 0 0 02APR97 AG2-30 APAX DESC. ELECTRICAMENTE G.R.F. 0 1 02APR97 AG2-30 APAX DESC. ELECTRICAMENTE G.R.F. 0 2 02APR97 AG2-30 APAX ABANICO RECIRCULAR GASES 0 0 02APR97 AG2-30 APAX DESC. ELECTRICAMENTE G.R.F. 0 1 02APR97 AG2-30 APAX ABANICO RECIRCULAR GASES 0 0 02APR97 AG2-30 APAX DESC. ELECTRICAMENTE G.R.F. 0 1 02APR97 AG2-30 APAX ABANICO RECIRCULAR GASES 0 0 02APR97 AG2-30 APAX DESC. ELECTRICAMENTE G.R.F. 0 1 02APR97 AG2-30 APAX ABANICO RECIRCULAR GASES 0 0 02APR97 AG2-30 APAX DESC. ELECTRICAMENTE G.R.F. 0 1 02APR97 AG2-30 APAX ABANICO G.R.F. 0 2 02APR97 AG2-30 APAX ABANICO G.R.F. 0 3 03APR97 AG2-30 APAX ABANICO G.R.F. 0 4 03APR97 AG2-30 APAX ABANICO G.R.F. 0 5 03APR97 AG2-30 APAX ABANICO G.R.F. 0 6 03APR97 AG2-30 APAX ABANICO G.R.F. 0 7 07APR97 AG2-30 APAX ABANICO G.R.F. 0 9 03APR97 AG2-30 APAX ABANICO G.R.F. 0 1 07APR97 AG2-30 APAX ABANICO G.R.F. 0 1 07APR97 AG2-30 APAX ABANICO G.R.F. 0 2 08APR97 AG2-30 APAX ACOPLAR MOTOR Y ABANICO G.R.F. 0 1 08APR97 AG2-30 APAX ABANICO G.R.F. 0 2 08APR97 AG2-20 APAX ALINEAR MOTOR CON ABANICO G.R.F. 0 1 08APR97 AG2-20 APAX ALINEAR MOTOR CON ABANICO G.R.F. 0 2 08APR97 AG2-20 APAX ALINEAR MOTOR CON ABANICO G.R.F. 0 2 08APR97 AG2-20 APAX ALINEAR MOTOR Y ABANICO G.R.F. 0 3 08APR97 AG2-20 APAX ALINEAR MOTOR CON ABANICO G.R.F. 0 4 08APR97 AG2-20 APAX ALINEAR MOTOR CON ABANICO G.R.F. 0 9 08APR97 AG2-20 APAX ALINEAR MOTOR CON ABANICO G.R.F. 0 1 08APR97 AG2-20 APAX ALINEAR MOTOR CON ABANICO G.R.F. 0 1 08APR97 AG2-20 A	ASZ-12 APAX LAVADO E INSP. DE MOTOR (REP. DE SER NECES) 0 4 OAAPR97 O4APR97 ASZ-14 APAX BALANCEAR ROTOR EN T.M.G. DE SER NECESARIO 0 4 OAAPR97 O4APR97 ASZ-16 APAX MONTAR MOTOR DEL ABANICO 8-2 0 4 07APR97 07APR97 ASZ-18 APAX MONTAR BEARING ABANICO 8-2 0 4 07APR97 07APR97 ASZ-20 APAX INSTALAR LINIAS DE ENFRIAMIENTO 0 2 08APR97 08APR97 ASZ-22 APAX ALINEAR MOTOR CON ABANICO 0 4 08APR97 08APR97 ASZ-24 APAX ACOPLAR MOTOR Y ABANICO 0 4 08APR97 09APR97 ASZ-25 APAX ACONDICIONAR CONTROL VANES-ABANICO 0 8 09APR97 09APR97 ASZ-29 APAX ACONDICIONAR CONTROL VANES-ABANICO 0 0 0 0 APAX ABANICO RECIRCULAR GASES 0 0 0 0 0 0 APAX ABANICO RECIRCULAR GASES 0 0 0 0 0 APAX ABANICO RECIRCULAR GASES 0 0 0 0 0 APAX ABANICO RECIRCULAR GASES 0 0 0 0 0 APAX ABANICO RECIRCULAR GASES 0 0 0 0 0 APAX ABANICO RECIRCULAR GASES 0 0 0 0 0 0 APAX ABANICO RECIRCULAR GASES 0 0 0 0 0 0 0 APAX ABANICO RECIRCULAR GASES 0 0 0 0 0 0 0 APAX ABRIR BEARING TOMAR MEDIDAS (REP. DE SER 0 0 0 0 0 0 0 APAX ABRIR BEARING TOMAR MEDIDAS (REP. DE SER 0 0 0 0 0 0 0 0 APAX ABANICO RECIRCULAR GASES 0 0 0 0 0 0 0 0 0 APAX ABRIR BEARING ABANICO G.R.F. 0 0 0 0 0 0 0 0 0	AGE-212 APAX LAVADO E INSP. DE MOTOR (REP. DE SER NECES) 0 4 OAAPR97 OAAPR97 MARCE APAX BALANCEAR ROTOR EN T.M.G. DE SER NECESARIO 0 4 OAAPR97 OAAPR97 MARCE APAX MONTAR MOTOR DEL ABANICO 8-2 0 4 O7APR97 O7APR97 MARCE APAX MONTAR BEARING ABANICO 8-2 0 4 O7APR97 O7APR97 MARCE APAX MONTAR BEARING ABANICO 8-2 0 4 O7APR97 O7APR97 MARCE APAX MONTAR BEARING ABANICO 8-2 0 4 O7APR97 O7APR97 MARCE APAX MONTAR BEARING ABANICO 8-2 0 4 ORAPR97 O8APR97 MARCE APAX ALINEAR MOTOR CON ABANICO 0 4 OBAPR97 OBAPR97 MARCE APAX ACOPLAR MOTOR Y ABANICO 0 4 OBAPR97 OBAPR97 MARCE APAX ACOPLAR MOTOR Y ABANICO 0 8 OSAPR97 OSAPR97 MARCE OSAPR97 MARCE OSAPR

POSSESS POSSESS SONO	AREA	T		Ren	**************************************	Eatily	APR	Y
ID A81-06	APAX	description DESCONECTAR LINEAS DE ENFRIAMIENTO	com	2000000	stari 02APR97	finish 02APR97	\$18.700 F12.800 F100	45 1
A81-08		ABRIR BEARING TOMAR MEDIDAS (REP. DE SER			03APR97			
A81-10	1	REMOVER MOTOR PARA LIMPIEZA ELEC.			03APR97	03APR97		İ
A81-12		LAVADO E INSP. DE MOTOR(REP. DE SER NECESA)			04APR97	04APR97		
A81-14		BALANCEAR ROTOR EN T.M.G. DE SER NECESARIO	-		04APR97	04APR97		
A81-16		MONTAR MOTOR DEL ABANICO INDUCIDO 8-1	-		07APR97	07APR97		
A81-18	APAX	MONTAR BEARING ABANICO INDUCIDO 8-1	-		07APR97	07APR97		
A81-20	APAX	INSTALAR LINEAS DE ENFRIAMIENTO			08APR97	08APR97		
A81-22	100000000000000000000000000000000000000	ALINEAR MOTOR CON ABANICO INDUCIDO	-		08APR97	08APR97		
A81-24		ACOPLAR MOTOR Y ABANICO INDUCIDO			08APR97	09APR97	W W	
A81-26	-	PROBAR ABANICO INDUCIDO 8-1	-		C9APR97	C9APR97	_	
A82-00	0.0000000000000000000000000000000000000	ABANICO INDUCIDO 8-2	-		02APR97	01APR97		
A82-02	APAX	DESC. ELECTRICAMENTE INDUCIDO ABANICO 8-2	-		02APR97	02APR97		
A82-04		DESACOPLAR MOTOR DE ABANICO INDUCIDO 8-2	-		02APR97	02APR97	Γ	
A82-06		DESCONECTAR LINEAS DE ENFRIAMIENTO	-		02APR97	OZAPR97		
3333		ABRIR BEARING TOMAR MEDIDAS (REP. DE SER	-		03APR97	03APR97		
		REMOVER MOTOR PARA LIMPIEZA ELEC.	0		03APR97	03APR97		
999 <u> </u>		LAVODO E INSP. DE MOTOR(REP. DE SER NECES)	0		04APR97	04APR97		
	-	BALANCEAR ROTOR EN T.M.G. DE SER NECESARIO	0		04APR97	04APR97		
		MONTAR MOTOR DEL ABANICO INDUCIDO 8-2	0		07APR97	07APR97		
A82-18	APAX	MONTAR BEARING ABANICO INDUCIDO 8-2	0		07APR97	07APR97	×	
A82-20	APAX	INSTALAR LINEAS DE ENFRIAMIENTO	0		08APR97	08APR97	-	
A82-22	APAX	ALINEAR MOTOR CON ABANICO INDUCIDO	0		08APR97	08APR97		
A82-24	APAX	ACOPLAR MOTOR Y ABANICO INDUCIDO	0		08APR97	09APR97		
A82-26	APAX	PROBAR ABANICO INDUCIDO 8-2	0		09APR97	CSAPR97	X	
EC-10-	в в	DILER				our i nor		
B04-02	APBO	PINTAR CHIMENEAS DE CALDERA (contrato)	0	140	02APR97	25APR97		
B08-10	APBO	CAMBIOS TRAMOS EN CURVAS DEL MUD DRUM (33)	0	150	02APR97	24APR97	SECURITY	- 1
B22-12	APBO	RELOCALIZAR LINEAS SOPLADO PRECALENTADORES	0	45	02APR97	09APR97	3007	1
B48-02	APBO	VERIFICAR INTERNAMENTE CALDERIN	0	70	02APR97	14APR97		1
B48-06	APBO	PREPARATIVOS DE ANDAMIOS REP. HANGERS	0	8	02APR97	02APR97	Z	- 1
B48-08	APBO	VERIFICAR HANGERS E INSPECCIONAR	0	16	02APR97	03APR97	7	\neg
B48-10	APBO	REPARACIONES DE HANGERS	0	16	02APR97	03APR97	7	- 1
848-12	APBO	REMOCION DE ANDAMIOS	0	4	02APR97	02APR97	7	- 1
B04-12	APBO	LAVADO INTERNO DE LAS PAREDES DE LA CALDERA	0	16	02APR97	03APR97	7	1
B04-10	APBO	INSTALAR ANDAMIOS DENTRO CALDERA	0	32	02APR97	07APR97	967	- 1
B04-14	APBO	REMOCION DE ANDAMIOS INTERIOR CALDERA	0	16	02APR97	03APR97	7	
B30-02	APBO	CAMBIO DE JUNTA FLEXITALIES COLD REHEAT	0	40	02APR97	08APR97		
**************	******	JRBINE						
\$		TIEMPO ENFRIAMIENTO DE TURBINA	0			04APR97		
98 L		REMOVER ENVOLVENTE COJINETE # 2, & 5	0			06APR97		.
000		REM. AISLACION COJINETE # 2, 5 (SI TIENE)	0			06APR97		
140-05	APIU	REMOVER CUBIERTA- COJINETE # 5	0	4	DEAPR97	06APR97	MA.	

	Activity	AREA	Activity	Per	Ren	Early	Early	1	
	ID		description	com	*******		firitfi	APA 17 24 21 2	8 5 1
	T40-08	APTU	REMOVER COJINETE # 5	0	4	06APR97	06APR97	X	
	T40-10	APTU	LIMPIAR, INSP. Y MEDIR COJINETE # 5	0	4	06APR97	06APR97	Z	
	T40-12	APTU	REPARAR COJINETE # 5 (SI ES NECESARIO)	0	0	07APR97	06APR97	M	
	T40-14	APTU	REMOVER SELLOS ACEITE-COJINETE # 5	0	4	07APR97	07APR97	X	
	T40-16	APTU	LIMPINSPMEDIR SELLO ACEITE, COJINETE -5	0	4	08APR97	08APR97	X	
	T40-18	APTU	REP. SELLOS AGE- COJ. # 5 (DE SER NECESARIO)	0	8	09APR97	10APR97	M	
	T40-19	APTU	REMOVER 1/2 INF. COJ #5 VER.INSP. SELLO H2	0	4	07APR97	07APR97	X	
	T40-20	APTU	INST. 1/2 INFERIOR COJINETE # 5	0	8	11APR97	12APR97	87	
	T40-22	APTU	REALIZAR PRUEBAS DE ALINEACION	0	8	13APR97	13APR97	M	
	T40-24	APTU	INSTALAR 1/2 SUPERIOR COJINETE # 5	0	4	13APR97	13APR97	X	
	T40-26	APTU	INSTALAR SELLOS ACEITE COJINETE # 5	0	4	13APR97	13APR97	Ø	
	T40-28	APTU	INSTALAR CUBIERTA COJINETE # 5	0	4	13APR97	13APR97	X	
	T40-30	APTU	INSTALAR AISLACION COJINETE # 2, 5	0	8	13APR97	14APR97	X	
	T40-32	APTU	INSTALAR ENVOLVENTES COJINETE # 5	0	. 4	15APR97	15APR97	X	
	T40-40	APTU	REMOVER ENVOLVENTE COJ.#2	0	4	02APR97	02APR97	Z	
	T40-42	APTU	REM. CUBIERTA DE COJINETE #2	0	4	02APR97	02APR97	Z	
	T40-44	APTU	LIMPIAR INSP. MEDIR COJIN.#2	0	4	02APR97	02APR97	2	
	T40-46	APTU	REPARAR SELLO ACEITE BERING #2 (LIQ. ACEITE)	0	4	02APR97	02APR97	X	
	T40-48	TMGN	REPARAR COJINETE #2,5 DE SER NECESARIO	0	16	02APR97	03APR97	87	
	T40-50	APTU	INSTALAR COJINETE #2	0	4	02APR97	02APR97	Z ·	
	T50-02	APTU	INSTALAR ENVOLVENTE COJIN.#2	0	4	02APR97	02APR97	Z	
	T61-02	APTU	REMOVER AISLACION TAPA-VALVULA VAPOR	0	0	02APR97	01APR97	X	
	T61-04	APTU	REM. TUERCAS Y TAPA-VALVULA VAPOR PRINCIPAL	0	16	02APR97	05APR97	367	
	T61-06	APTU	REM. E INSP. CEDAZOS-VALVULA VAPOR PRINCIPAL	0	2	06APR97	06APR97	M	
	T61-08	APTU	REMOVER ACOPLE-VALVULA VAPOR PRINCIPAL	0	4	OGAPR97	06APR97	M	
	T61-10	APTU	REM. PULL DOWN RING- VALVULA VAPOR PRINCIPAL	0	4	06APR97	06APR97	Z	
	T61-12	APTU	REM. VALVULA DE VAPOR PRINCIPAL	0	4	O6APR97	06APR97	Z	
	T61-14	APTU	DESARMAR VALVULA VAPOR PRINCIPAL	0	8	07APR97	07APR97	X	
	T61-16	APTU	LIMPIAR E INSP. PIEZAS VALVULA VAPOR PRINCIPAL	0	8	08APR97	09APR97	M	
	T61-18	APTU	MEDIR EJE Y CASQUILLOS-VALVULA VAPOR	0	8	10APR97	11APR97	Ø	
	T61-20	APTU	ARMAR VALVULA VAPOR PRINCIPAL	0	8	12APR97	13APR97	M	
	T61-22	APTU	MEDIR RECORRIDO BY PASS VALVES-VALVULA	0	4	13APR97	13APR97	X	\neg
	T61-24	APTU	REALIZAR PRUEBA RAJADURA-VALVULA VAPOR	0	4	13APR97	13APR97	¥	- 1
	T61-26	APTU	REALIZAR PRUEBA CONTACTO-VALVULA VAPOR	0	4	13APR97	13APR97	X	
	T61-28	APTU	INSTALAR VALVULA DE VAPOR PRINCIPAL	0	4	13APR97	13APR97	×	.
	T61-30	APTU	CONECTAR PULL DOWN RING-VALVULA VAPOR	0	4	13APR97	13APR97	X	
	T61-32	APTU	ACOPLAR VALVULA PISTON-VALVULA VAPOR	0	4	14APR97	14APR97	12	
ı	T61-34	APTU	INSTALAR CEDAZO VALVULA VAPOR PRINCIPAL	0	2	15APR97	15APR97	X	
	T61-36	APTU	INST APRETAR TAPA-VALVULA VAPOR PRINCIPAL	0	16	15APR97	19APR97	2007	
	T61-38	APTU	ESTIRAR TORNILLO TAPA-VALVULA VAPOR	0	8	19APR97	20APR97	X	
	T61-40	APTU	INSTALAR AISLACION-VALVULA VAPOR PRINCIPAL	0	8	20APR97	20APR97	M	
	T61-42	APTU	VERIFICAR CALIBRACION VALVULA VAPOR	0	1	20APR97	20APR97	M	

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	AREA	£	\\$ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Rem		Early	AFR
10		description	com	dur		finish	17 7421285
T63-00	APTU	VALVULAS DE CONTROL SUPERIOR & INFERIOR	0	0	02APR97	01APR97	R .
T63-01	APBO	REMOVER AISLACION DE SER NECESARIO	0	21	02APR97	04APR97	87
T63-02	APTU	DESARMAR-INSP. VALVULAS DE CONTROL	0	70	04APR97	17APR97	
T63-04	APTU	REPARAR VALVULAS DE CONTROL	0	35	11APR97	17APR97	AND
T63-05	APTU	INST. COJINETES CAM SHAFT-VALV. CONTROL	0	16	17APR97	21APR97	A967
T63-06	APTU	INSTALAR VALVULAS DE CONTROL	0	35	17APR97	23APR97	2007
T63-07	APTU	APRETAR VALVULAS DE CONTROL	0	24	23APR97	28APR97	AV
T63-08	APTU	INSTALAR AISLACION DE SER NECESARIO	0	16	23APR97	25APR97	87
T66-04	APBO	INSPECCIONAR ALTO CONSUMO HIDROG. EN GEN.	0	35	07APR97	11APR97	ANY
T90-06	APTU	ENTREGA DE LA UNIDAD	0	1	25APR97	25APR97	X
EC-10-	E E	LECTRIC					
EA70	APAX	CAMBIO DEL MOTOR DEL G.R.F. U # 8	0	28	02APR97	07APR97	
EC-10-	sound The Company	ECTRONIC	,				
140-02	PLIE	REMPLAZO TX RECIRC. B. F.W.P. 8-1, 8-2	0	32	02APR97	07APR97	357
140-04	PLIE	REMPLAZO TX CONDENSADO FLUJO	0	15	08APR97	09APR97	N
140-06	PLIE	INSTALAR INDICADORES PENDIENTES.	0	15	09APR97	11APR97	257
140-08	PLIE	INSTALACION HARDWARE AMBIENTAL AP51	0	40	11APR97	18APR97	
140-10	PLIE	ALAMBRADO DE DESTILADO LIVIANO	0	28	02APR97	07APR97	987
140-12	PLIE	CONECTAR Y CONFIGURAR THERMAL DRAIN	0	60	07APR97	16APR97	A
EC-10-	M N	ECHANIC					
E10-02	PLME	TRAYS AREA QUEMADORES EN MAL ESTADO	0	32	02APR97	07APR97	3867
M20-02	PLME	LINEAS VAPOR ATOMIZAR (REMPLAZO)	0	24	02APR97	04APR97	3 27
	OLVE	INST. TUBERIA Y VAIV. TORRE DE ENFRIAMIENTO	0	24	02APR97	04APR97	207

PUERTO RICO ELECTRIC POWER AUTHORITY San Juan Steam Plant

Inspection and Analysis Program

San Juan Steam Plant Unit 9 was out of service from December 16, 1996 through March 3, 1997. During the outage the following equipment were repaired installed or replaced in order to insure the unit's environmental compliance.

I. FUEL OIL HANDLING

A. Fuel Oil Pump

1) The Bunker "C" oil pump pressure control and pressure regulator valve were inspected and calibrated.

B. Fuel Oil Heaters

- 1) Packing were adjusted as necessary in all valves.
- Fuel oil heater steam regulator valve was inspected and calibrated.

C. Viscosimeter

1) A Norcross, model MP90 viscosimeter was cleaned, calibrated and tested.

D. Burner

- Faces contact, short circuit and pressure test were made for burners tips and hoses.
- 2) New tips and plugs were installed in all burners.

E. Burner Insolation Valves

- 1) Packing was inspected and adjusted as necessary to the isolation valves.
- Change to the trifecta purge sequence was made in order to adapt to the new Burner Management System.

F. Burner Management System

- 1) A new Forney- Foxboro burner management system was installed.
- 2) A new main flame detection system was installed and verified.
- 3) A new igniter flame detection system was installed and verified.
- 4) All burners were fired and their flame calibrated.
- 5) New igniter were installed (model maxfire 10).

II. COMBUSTION CONTROL

A. Atomizing Steam Controls

- 1) Inspected and verified the atomizing steam press I/P's calibration.
- 2) Performed maintenance and tested the atomizing steam press trip and alarm.

B. Combustion Control System

- 1) Calibrated the transmitters for the fuel oil press.
- 2) New characterization curves were drawn for the boiler operation under balanced draft conditions.

C. Alarm Panels

- 1) New alarm for low and high pressure in furnace was installed.
- 2) Flasher board of panel number two (2) and Four (4) were replaced.
- 3) Seventeen (17) alarm boards were replaced.

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III. COMBUSTION AIR

A. Diffusers / Swirlers

1) All were installed new and calibrated at design specifications.

B. Air Slides

New air slides proximitor switches were installed.

C. Dampers

 Gas recirculating fan control dampers mechanism, was inspected and all the bearing were replaced new.

D. Duct and furnace Casing Integrity

Duct and furnace casing were repaired as necessary.

E. Air Preheater

- 1) Sensing lines were inspected and check for deposit of soot in the pipe.
- 2) All Pressure transmitters have been inspected and calibrated.
- 3) Cold end radial seal, axial and by-pass seals were replaced and calibrated at design specifications. Hot end radial seals were found in good conditions.

F. Fan

- 1) New filters were installed in both scanner blower fans.
- New control and protection circuit related with balanced draft equipment were tested.
- 3) Forced draft fan 9-1 and 9-2
 - * The Fan and its bearings were cleaned and inspected.
 - * All dampers and control vanes were greased and inspected.

4) Gas Recirculating Fan

- * The fan and its bearings were cleaned and inspected.
- * All dampers and control vanes were greased and inspected.

G. Steam coil

- 1) All valves in both steam coils were inspected. Maintenance of all valves were made. Packing was replaced in all valves.
- 2) New steam traps were installed.
- 3) The humidity steam separator in the supply line to the steam was repaired, installed new lines and new drainage. Flanges were eliminated.
- 4) The regulating valves were inspected and calibrated.

H. Wash Steam Radiators

1) Steam Coils were water washed (high pressure), all rags, papers and garbage was removed from them.

IV. FLUE GAS HANDLING AND MEASUREMENT

A. Duct Work

- 1) Air ducts were inspected and some patch were installed.
- 2) Economizer outlet duct was repaired as necessary.
- 3) Some patch weldings done on the air preheater casings.
- 4) Economizer and gas recirculating fan outlet ducts expansion joints were repaired as necessary.

B. Oxygen

1) Replaced existing probes with two new oxygen probes and performed calibration on them.



C. Opacity

- 1) For both opacimeters:
 - * Existing light duct was cleaned.
 - The air filter was replaced.
- Due to Re-localization of the stacks both opacimeter were certified, calibrated by a technical assistant and verified their operation.

D. Temperature

1) Air in, Air out, Gas in and Gas out the termocouples were inspected and replaced as necessary.

E. Sootblower

- An overall maintenance was performed in every sootblower and the following works were done;
 - Traveling carriages were repaired as necessary.
 - * All lances and feed pipes were inspected and replaced as necessary.
 - Puppet valves were repaired as necessary.
 - * Travelling and rotary transmissions were inspected, oil checked and repaired as necessary.
- 2) Sootblower steam regulating valve and pressure control was replaced by a new one.
- Control pressure was cleaned, inspected and calibrated.
- 4) New platforms were fabricated on economizer area for future sootblower installations in the area; it will be finished on march, 1997.
- 5) All boiler and air heater sootblower, local, manual and auto operation were tested.
- 6) Boiler sootblower travel was tested.

- All the packing in the sootblowers were inspected and those found damaged were replaced.
- 8) Calibrations of steam pressure to blowers were made.

F. Boiler Wash

- 1) The following areas were washed and cleaned by Limpiaca and Induchem companies.
 - * Economizer gas and air hopper were water washed.
 - * The stacks were water washed.
 - * The headers enclosure were cleaned and water washed.
 - * Reheater, primary and secondary superheater and economizer elements were hydroblasted to remove all the slag.
 - * The penthouse and doghouse were water washed.
 - * Waterwall tubes were hydroblasted.

V. COMPLETE STEAM CYCLE

A. Pressure Parts

- 1) All lower vestibule waterwall bends were replaced.
- 2) Forty percent of lower waterwall mud drum bends were replaced all of them from furnace center to the left wall; One hundred percent of welds were checked using x-ray tests.
- 3) Hydrostatic test were performed during the following dates; February 7, 8 and 9, 1997. Tubes were repaired or replaced as necessary.
- 4) The boiler was returned to operation section on February 9, 1997.

B. Feedwater Heater

1) The feedwater heater number 5 was tested. Four tubes were found broken and were repaired.

- 2) A new protection system called (water induction) was installed in all the heater.
- 3) Heater level control and level control valve were inspected, cleaned and calibrated.

C. Waterwall Integrity

1) Waterwall integrity was inspected and repaired as necessary.

HARDWARE UPGRADE

ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
I- FUEL OIL HANDLING			
A- FUEL OIL QUALITY			1
B - FUEL OIL PUMPS			
INSP. REP.& TEST AUTO START BKR	PLEL	27-Jan	Preventive maintenance
INSP TEST AUTO START PRESS.SWITCH		13-Dec	Inspected & Calibrated
INSPECT OR REPAIR PUMPS	PLME	17-Dec	Inspected all their components
INSPECT AND CLEAR STRAINER	PLME	17-Dec	Removed and cleaned
INSP.&MAINT.PUMP ISOLATION VALVES	PLME	17-Dec	Packing were adjusted and lub.
INSP.&MAINT OTHER VALVE PUMP SEC	PLME	17-Dec	Adjusment & lub. were made
INSP.REPAIR FUEL OIL REC.VALVES	PLIN	22-Jan	Inspected and Calibrated
C- FUEL OIL HEATERS			
CALIBRATED I/P FUEL HEATER VALVE	PLIE	13-Dec	Test and Verified
INSP.TEST FUEL OIL TEMP. THERMOCO	PLIE	13-Dec	Inspected physically
INSP.TEST TEMP.FUEL OIL TRIP ALARM	PLIE	13-Dec	Performed maintenance and test
CALIBRATED I/P FUEL REC. VALVE	PLIE	13-Dec	Test and verified
INSP. OR REPAIR HEATING ELEMENTS	PLME	17-Dec	Inspected, No work required
INSP.OR REPAIR STEAM TRAP	PLME	17-Dec	Insp. and maint. was made
REP. LEAK PIPING ASSO. WITH HEATER	PLME	17-Dec	Valves and Pipes were insp.
INSP.OR REP. STEAM REG. VALVE	PLIN	22-Jan	Inspected and Calibrated
INSP.OR CHANGE THERM. AND MANO	PLIN	22-Jan	Inspected and Calibrated
INSP.OR REP. HEATER RELIEF VALVE	PLIN		Next outage
D- VISCOSIMETER			
INSP. & CLEAR TEST VISCOSIMETER	PLIE	13-Dec	CLEANED, CALIBRATED
35			AND TEST
E- BURNER			
CLEAN OR REPLACEMENT BURNERS			All gun & air slides were
SIGHT GLASS	APBO	18-Dec	inspected and lubricated
WASH BURNER FLOORS	PLBG	14-Feb	Water washed and cleaned

HARDWARE UPGRADE

		December	16,1996 through March 3,1997
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
E - BURNER			
CHECK OR CHANGE NOZZLE ASSEMBLY	APBO	17-Dec	Face contact, short circuit and
			pressure test were made
INSP.REPAIR ALL BURNERS	PLME	17-Dec	Insp.,No work required
F- BURNER ISOLATION VALVE			
F- BORIVER ISOCATION VALVE			
INSP.LIMIT SWITCH & SOLENOIDE	PLIE	13-Feb	Inspected and change one
INSP. OR REPAIR OIL /STEAM LINE	PLME	17-Feb	Packing were adjusted as
& RACK VALVES			necessary
INSP. OR REPAIR TRIFECTAS VALVES	PLIN		Next outage
INSP. & CHANGE THERMOMETER	PLIN	22-Jan	Inspected and Calibrated
& MANOMETERS			*
O DUDNED HANA OFMENT OVOTEN			
G - BURNER MANAGEMENT SYSTEM	DUE	10.0	
INSP. ALL INDICATION LIGHT ON BMS	PLIE	13-Dec	Inspected and test
INSP. & TEST ALL IGNITER	PLIE	13-Dec	New were installed
INSP.LIMIT SWITCH TRIFECTAS, GUN INSI		13-Dec	Inspected. Ok
INSP. OR REPAIR SCANNERS	PLIE	13-Dec	Inspected. Ok
INSP.& TEST ALL MFT SIGNAL	PLIE	13-Dec	Inspected & tested
II -COMBUSTION CONTROL			
A- ATOMIZING STEAM CONTROLS			
INSP.& CALIBRATE ATOM.STEAM PRESS.	PLIE	13-Dec	Calibrated and Inspected
INSP.OR CALIBRATED I/P ATOM PRESS.	PLIE	13-Dec	Inspected and verified calibration
INSP.&CALIB.ATOM STEAM PRESS	PLIE	13-Dec	Performed maintenance & test
ALARM & TRIP.			
INSP. & TEST ATOM STEAM TERMOCOUP	PLIE		Next outage
INSP. OR CALIB. ATOM STEAM	PLIE	13-Dec	All have been stroked &
TEMP REGULATOR			operating properly
INSP. OR REP. ATOMIZING STEAM REG	PLIN	10-Jan	Inspected and Calibrated
			l

HARDWARE UPGRADE

	1		T g g g g g g g g g g g g g g g g g g g
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
B - COMBUSTION CONTROL SYSTEM			
			1
INSP.& CALIB. FUEL OIL SUPPLY	PLIE	13-Dec	calibrated
PRESS TRANSMITER			
CALIB. LOW OIL PRESS ALARM AND TRIP	PLIE	13-Dec	Calibrated.
INSP.& CALIB. I/P FUEL OIL PRESS REG	PLIE	13-Dec	Inspected. Ok
TEST ALL MEASURE SIGNAL ON I/A	PLIE	13-Dec	Checked and Proved
CONTROL LOOP			
TEST SOLENOID EQUIPMENT	PLIE	13-Dec	Checked and Operating Properly
INSP. OR REPAIR PROPANE SYST.	PLIN	10-Jan	Inspected & Calibrated
& VENT. VALVE			
INSP. OR REPAIR OIL	PLIN		Next outage
RECIRCULATING VALVES			
INSP.& CHANGE MANOMETER	PLIN	10-Jan	Inspected and Calibrated
& THERMOMETERS			
C - ALARM PANEL			
INSP.OR REPAIR EQUIPMENT ALARM	PLEL	15-Jan	Inspected replaced & tested
III-COMBUSTION AIR			
A- WINBOX			
A-I DIFFUSER/ SWIRLERS			
INSP.OR CALIB.SWIRLES/DIFFUSER	APBO	18-Dec	No work required
GUN DISTANCE			
INSP. OR REPAIR SWIRLES/DIFFUSER	APBO	18-Dec	Installed new & calibrated
GUN DISTANCE			
A-2 AIR SLIDES			
INSP.OR REPAIR AIR & GAS DAMPERS	APBO	17-Dec	Insp.& lubricated in good cond.
INSP. OR REPAIR SOLENOID VALVES	PLIE		fully funtional
INSP. & TEST PROXIMOTOR SWITCH	PLIE	13-Dec	All were properly checked
POSITION			
INSP.& CLEAN FURNACE AND WIND	PLIN		Next outage
BOX PRESS			
A-3 REGISTER			
A-4 DAMPERS			

HARDWARE UPGRADE

			1 10,1990 tillough March 3,1997
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
A-4 DAMPERS			
INSP. OR REP. AIR AND GAS DAMPER	APBO	17-Dec	Insp.& lub. for proper oper.boiler
A-5 DUCT AND FURNACE CASING INTEG		1940 N. CO. B. B. B. B. B. B. B. B. B. B. B. B. B.	the state of the s
INSP. OR REPAIR INNER & OUTER	APBO	17-Dec	Repaired as necessary.
CASING			
A-6 TILTING MECHANISM			
B - AIR PREHEATER			
INSPECT SOOTBLOWERS	APBO	18-Dec	Inspected-good operator cond.
INSP. OR REPAIR TURBINE AIR	APBO	18-Dec	Inspected & replaced (9-1)
DRIVER MOTOR			
INȘP. OR REPAIR SECTOR PLATES	APBO	18-Dec	Inspected-good operator cond.
INSPECT & REPAIR ROTOR CASING	APBO	18-Dec	Inspected-good operator cond.
INSP. LUBRICATION SYSTEM	APBO	18-Dec	Inspected-Oil replaced
INSP. AXIAL & CIRCUNFERENCIAL SEAL	APBO	18-Dec	Inspected-Replaced some seals.
INSP. OR REPAIR HEATING ELEMENTS	APBO	18-Dec	Inspected-good operator cond.
INSPECT DRAIN LINES	APBO	18-Dec	Inspected-good operator cond.
INSP.OR REPAIR WASHING DEVICE	APBO	18-Dec	Inspected-good operator cond.
INSP. OR REP. DIFFERENTIAL PRESS.	PLIE	13-Dec	Inspected-good operator cond.
INSP.& TEST TURBINE AIR SOLENOID	PLIE	13-Dec	Inspected and test
& ALARM			
INSP.OR REPAIR AIR/GAS THERMOCOU	PLIE	13-Dec	Inspected physically
INSPECT A.H. SENSING LINES	PLIE	7-Jan	Inspected and check
C- FANS			
INSPECT OR REPAIR FDF	APAX	16-Jan	Preventive maintenance
INSPECT OR REPAIR IDF	APAX		Next program outage
INSP.OR REPAIR BEARINGS	APAX	16-Jan	Insp. & cleaned brgs.(F.D.F.)
INSP. OR REPAIR GRF	APAX	29-Jan	Inspected. Ok
INSP. & REPAIR SHUTT OFF DAMPER	APBO	29-Jan	Insp. No work required
INSPECT IDF & FDF MOTOR	PLEL	13-Dec	Megger was performed
INSP.OR REP. CALB. OF SENSOR	PLIE	13-Dec	Inspected & calibrated.
VIBRATION IN ALL FAN			
INSP. OR REPAIR SOLENOID & ALARM	PLIE	13-Dec	Inspected.Ok
INSP. & REPAIR I/P FOR EACH FAN	PLIE	13-Dec	Tested O.K

HARDWARE UPGRADE

		December	16,1996 through Warch 3,1997
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
C- FAN (CONT.)			
INSP. OR REP. SCANNER FAN	PLME	22-Dec	Insp.& cleaned filters
CHANGE OIL IN ALL BEARING FAN &	PLME	22-Dec	Oil changes & leak were made
OIL LEAKAGES			J. S. S. S. S. S. S. S. S. S. S. S. S. S.
TEST FAN ANTILOCK SYSTEM &	PLIE	7-Jan	Calibrated and tested both fan
PNEUMATIC VALVE CONTROL			The second section sec
INSP. OR REP. MANOMETER AND	PLIN	7-Jan	Inspected . ok
THERMOMETER			
D. STEAM COIL			
D - STEAM COIL	DIDO		
WASH STEAM RADIATOR	PLBG	5-Feb	Water washed (high press.)
INSP. OR REPAIR I/P CONTROL VALVE	PLIE	13-Dec	Insp., calibrated & checked
INSPECT STEAM RADIATOR	PLME	22-Dec	Inspested & checked
INSP. MANOMETER AND THERMOMETER		7-Jan	Inspected. ok
INSP. OR REPAIR REGULATOR POS.	PLIN	7-Jan	Steam press. control valve
			inspected & calibrated.
IV- FLUE GAS HANDLING AND MEASU.			
A- DUCTWORK			
INSP. OR REP. AIR & GAS DUCTS	APBO	23-Jan	Inspected & repair some area
INSP.OR REPAIR BOILER STRUCTURE	APBO	23-Jan	Inspected. Ok
B- INSTRUMENTATION			
B-1 OXYGEN			
INSPECT OR REPAIR O2 ANALIZERS	PLIE	13-Dec	Performed calibration, two
			analizer were installed.
B-2 OPACITY			
CLEAN LIGHT DUCT IN BOTH OPACITY	PLIE	13-Dec	Cleaned
CHECK CALIBRATION OF BOTH SMOKE	PLIE	13-Dec	Performed calibration
DETECTOR			
INSP. RECORDER OPERATION & CONF.	PLIE	13-Dec	Inspected
TEST ALARM OPERATOR	PLIE	13-Dec	Tested. ok
B-3 TEMPERATURE			
INSPECT OR REPAIR MISCELANEOUS	PLIE	13-Dec	All thermocouple tested -
			are in good working order
			3.55

HARDWARE UPGRADE

		Decembe	1 16,1996 through Warch 3,1997
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
B-4 DRAFT			
INSP. OR REP. SENSING LINES	PLIN	9-Jan	Inspected. ok
C- SOOTBLOWER	i managana j		
INSPECT OR REP. SOOT BLOWERS	APBO	17-Dec	all sootblowers were inspected
ASSEMBLY			for proper operation
INSP. & MAINTENANCE LIMIT SWITCH	PLEL	15-Jan	Cleaned ,inspected & tested
INSP. SOOTBLOWER ELECTRIC PANEL	PLEL	15-Jan	Inspected local, manual &
			auto operation were tested
INSPECT RETRACT SOOTBLOWER -	PLME	7-Jan	Mechanical inspection &
PACKING			maintenance of all sootblower
INPS. OR REP. SOOTBLOWER STEAM	PLIN	9-Jan	Replaced by a new one
REG. VAL. & PRESS. CONTROL			
INSPECT OR REPAIR THERMO DRAIN -	PLIN	9-Jan	Inspected & cleaned
VALVES			
D- BOILER WASH			
WASH STACK AND AIR HEATER	APBO	17-Jan	Hydroblasted
WASH PEN-HOUSE & DOG HOUSE DUCTS	APBO	17-Jan	Hydroblasted
CLEAN BOTTOM FURNACE	APBO	17-Jan	Hydroblasted
WASH & CLEAN GAS CONDUCTS	APBO	17-Jan	Washed
WASH INDUCED FANS	APBO	17-Jan	Washed
WASH SUPERHEATER & REHEATER -	APBO	17-Jan	Hydroblasted
TUBES			
WASH LOW TEMP. SH & ECONOMIZER	APBO	17-Jan	Hydroblasted
CLEAN AIR HOPER	APBO	17-Jan	Cleaned
V - COMPLETE STEAM CYCLE			
A- PRESSURE PARTS			
CHANGE OR REP. BROKEN TUBES	APBO	18-Dec	Replaced-40% mud drum bends.
INITIAL AIR TEST	APBO	18-Dec	Inspected. ok
INITIAL HIDROSTATIC TEST	APBO	7-Feb	Inspected. ok
INSPECT & REPAIR PRIMARY &	APBO	18-Dec	Inspected. ok
& SECONDARY S.H.			
INSPECT REHEATER	APBO	7-Feb	Inspected. ok
FINAL HIDROTEST	APBO	9-Feb	O.K.

HARDWARE UPGRADE

		December	r 16,1996 through March 3,1997
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
B- FEED WATER HEATER	THE COMMENT OF THE PARTY OF THE	orlinancamus produces. (a)	
INSP. OR REP. ALARMS	PLEL	5-Feb	Tested, O.K
INSPECT HYDRASTEP	PLIE		Next program outage
INSPECT THERMOCOUPLE	PLIE		Next program outage
CALIBRATE I/P	PLIE		Next program outage
INSP. & CALIB. I/P DEARATOR LEVEL-	PLIE		Next program outage
HOTWELL LEVEL			- 3
INSP. OR REPAIR SIDE GLASS LEVEL	PLME	17-Jan	Inspected, no work required
NSP. & REPAIR HEATER IF NECESSARY	PLME	17-Jan	No work required
MAINT. ISOLATION VALVES & OTHER -	PLME	17-Jan	Lubricated
VALVES ASS.			
INSP. REG. VAL. AND CONTROLS	PLIN	26-Feb	Insp. calibrated and cleaned
INSPECT NON-RETURN VALVES TRIP -	PLIN	26-Feb	Inspected & tested
MECHANISM			
INSP. MANOMETER THERMOMETER	PLIN	26-Feb	Inspected. ok
C- WATER- WALL INTEGRITY			
INSPECT ECONOMIZER	APBO	27-Jan	Inspected. ok
INSPECT DRUM & HEADER	APBO	27-Jan	Inspected. ok
NSPECT DOG HOUSE	APBO	27-Jan	Inspected. ok
VI- CONDENSER WORK			
CLEANING CONDENSER TUBES	PLBG	·2-Mar	Hydroblasted
URANINE TEST & BROKEN CAPS	PLBG	2-Mar	Tested-found two tubes bad.
in the second se			
REPAIR HOLES AND CONDENSER	APBO	7-Mar	Repaired -
INFILTRATION			
1			
			E
			
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Activity	ARE	A Activity	9/	CA	W 100 000	00 F0000000000000000000000000000000000	Earlyn			W JAH
ID.		description«		10	DO	R slan	Malsa	F		TO 13 20 27 3 .
BOMBAS	ALIM	ENTACION 9-1 Y 9-2	-1111							
		I DESACOPLAR MOTOR Y BOMBA ALIMENTAR 9-1		0 4	1	8 10DEC96			Z	
		REMOVER COJINETES MOTOR-BOMBA ALIMENTAR 9-1		0 4		8 11DEC96			Z	1
		REMOVER ROTOR MOTOR- BOMBA ALIMENTAR 9-1		0 4		8 12DEC96			23	:
A41-10	AUX	INSPMEDIR COJINETE MOTOR -BOMBA ALIMENTAR		0 4		8 12DEC96			Z	
A41-14	AUX	REM. COJINETE DE EMPUJE -BOMBA ALIM. 9-1		0 4		8 12DEC96	13DEC96		A	
A41-16	AUX	IREM. TANQUE DE ACEITE - BOMBA ALIMENTAR 9-1		0 4	11	6 13DEC96	16DEC96		2507	
A41-18	AUX	REMREPARAR MOTOR BOMBA LUBBOMBA ALIM. 9-1	: 1	0 4	1 1	6 16DEC96	17DEC96		N	
A41-32	TMG	BALANCEAR ROTOR MOTOR BOMBA ALIMENTAR 9-1	. (14	1 2	4 12DEC96	16DEC96		AW	
A41-34	AUX	INSTALAR ROTOR MOTOR-BOMBA ALIMENTAR 9-1	(14	1	16DEC96	17DEC96	1	₩.	
	AUX	REPARAR COJINETES MOTOR-BOMBA ALIMENTAR 9-1	(14	10	12DEC96	14DEC96	1	237	
		INSTALAR COJINETES MOTOR- BOMBA ALIMENTAR 9-1	(4	1	17DEC96	17DEC96	1	Z	<u> </u>
		INST. COJINETES- BOMBA ALIMENTAR 9-1		14	1 1	10DEC96	10DEC96	1	<u> </u>	: -
	1	INSP. Y REP. COJINETES EMPUJE- BOMBA ALIM. 9-1		14	16	13DEC96	16DEC96	1	457	
A41-52		INST. COJINETES EMPUJE-BOMBA ALIMENTAR 9-1		14		3 16DEC96	17DEC96	-	a a	
		INSTALAR EMPAQUETADURA BOMBA ALIM 9-1		14		10DEC96	10DEC96	-	X	
A41-58				4		100EC96	11DEC96	┡		
A41-60	100000	LIMPIAR-INSP. TANQUE LUBRICACION BOMBA ALIM 9-1		1				-	S	
A41-62	1	LIMPIAR COOLER ACEITE BOMBA ALIMENTACION 9-1		4		11DEC96	13DEC96		ZZ	4411
		INSTALAR TANQUE LUBRICACION		4		13DEC96	13DEC96			
A41-66		INST. MOTOR BOMBA LUBRICACION-BOMBA ALIM 9-1		4		14DEC96	14DEC96		₩	1
A41-68		ACOPLAR BOMBA LUBRICACION-BOMBA ALIM 9-1		4		16DEC96	16DEC96	1	M	
	1	CERRAR COJINETES- BOMBA ALIMENTACION 9-1	0	4		16DEC96	16DEC96		<u> </u>	
	1	ALINEAR MOTOR A BOMBA- BOMBA ALIMENTACION 9-1	0	4	8	16DEC96	17DEC96	1	a	
		ACOPLAR MOTOR A BOMBA ALIMENTACION 9-1	0	4		17DEC96	18DEC96		A	
A41-76	AUXI	REPCONECTAR LINEAS AGUA-BOMBA ALIM 9-1	0	4	16	18DEC96	19DEC96		₩.	4
A41-78	AUXI	LIMPIEZA-PINTAR AREA BOMBA ALIMENTACION 9-1	0	4	8	20DEC96	20DEC96		M	
A41-80	IXUA	REM. AISLACION DE CEDAZO- BOMBA ALIMENTACION	0	4	4	20DEC96	21DEC96		A	:
A41-82	AUXI	REMOVER-LIMPIAR CEDAZO, BOMBA ALIMENTACION 9-1	0	4	4	21DEC96	21DEC96		Ø	!
A41-84	AUXI	INSTALAR CEDAZOS- BOMBA ALIMENTACION 9-1	0	4	8	21DEC96	23DEC96		A	1
A41-86	AUXI	INSTALAR AISLACION AREA CEDAZOS-BOMBA ALIMEN	0	4	8	23DEC96	24DEC96		Ø	
	AUXI	PROBAR BOMBA ALIMENTACION 9-1	0	4	4	24DEC96	24DEC96		Z	
Control of the Contro		DESACOPLAR MOTOR -80MBA ALIMENTACION 9-2	0	4.	8	26DEC96	27DEC96		N	
		REMOVER COJINETE MOTOR- BOMBA ALIMENTACION	0	4	8	27DEC96	28DEC96		B	
		REMOVER ROTOR MOTOR-BOMBA ALIMENTACION 9-2	0	4	8	28DEC96	30DEC96		AS	4
		INSP MEDIR COJINETES MOTOR- BOMBA ALIM. 9-2	0	4	8	28DEC96	30DEC96		A	1
-		REP. COJINETE MOTOR, NECESARIO- BOMBA ALIM. 9-2	0	4	8	30DEC96	31DEC96		. A	7
		REMOVER COJINETE EMPUJE BOMBA ALIMENTACION	0	4	8	31DEC96	31DEC96		2	7 :
		REMOVER TANQUE ACEITE, BOMBA ALIMENTACION 9-2	0			02JAN97	03JAN97			57
		REMOVER- REPARAR MOTOR BOMBA LUBRICACION 9-2	0				31DEC96		Δ	7
		BALANCEAR ROTOR MOTOR-BOMBA ALIMENTACION	0			02JAN97	04JAN97	Tipout in the second		27
		INSTALAR ROTOR MOTOR -BOMBA ALIMENTACION 9-2	0			04JAN97	07JAN97			AT .
			01			07JAN97	07JAN97			82
A42-36 1	AUXI	INST. 112 COJINETE MOTOR-BOMBA ALIMENTACION 9-2 INST. 112 SUPERIOR COJINETE MOTOR- BOMBA ALIM 9-2	0			07JAN97	08JAN97			X
1 22 1	ALIXI	INST. 12 SUPERIOR COJINE IE MOTOR- BOMBA ALIM 9-2	21.	- 1	-	u. or 101				

Protest Stat 9208085 68:89 Protest Frank 62928997 12:59 Data State 1608086 6059 Not Octo 1608008 17:88

A E.E. CENTRAL SAN JUAN

REPARACION PROGRAMADA UNIDAD # 9

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A42-58 AUXI INSTALAR EMPAQUETADURA -BOMBA ALIMENTACION 0 4 8 13,1AN97 13,1AN97 13,1AN97 14,1AN97 14	
A42-60 AUXI LIMPIAR JINSP, TANQUE LUBRICACION BOMBA ALIM 9-2	
A42-62 AUXI LIMPIAR COOLER DE ACEITE- BOMBA ALIMENTACION 0 4 16 IAJAN97 15JAN97 32 A42-64 AUXI INST. TANQUE LUBRICACION-BOMBA ALIMENTACION 0 4 8 ISJAN97 16JAN97 32 A42-66 AUXI INST. MOTOR BOMBA LUBRICACION-BOMBA ALIM. 9-2 0 4 4 17JAN97 17JAN97 32 A42-68 AUXI IACOPLAR BOMBA ALIMENTACION-BOMBA ALIM. 9-2 0 4 4 17JAN97 17JAN97 32 A42-70 AUXI CERRAR COJINETES-BOMBA ALIMENTACION-9-2 0 4 4 17JAN97 17JAN97 32 A42-71 AUXI ALINEAR MOTOR A BOMBA ALIMENTACION-9-2 0 4 8 ISJAN97 20JAN97 32 A42-76 AUXI IACOPLAR MOTOR A BOMBA ALIMENTACION-9-2 0 4 8 ISJAN97 20JAN97 32 A42-76 AUXI REPO-CONECTAR LINEA H2O-BOMBA ALIMENTACION-9-2 0 4 8 21JAN97 22JAN97 32 A42-80 AUXI REMOVER CEDAZOS-BOMBA ALIMENTACION-9-2 0 4 8 21JAN97 22JAN97 32 A42-80 AUXI REMOVER CEDAZOS-BOMBA ALIMENTACION-9-2 0 4 8 22JAN97 22JAN97 32 A42-86 AUXI INST. AISLACION DE CEDAZOS-BOMBA ALIMENTACION-9-2 0 4 8 22JAN97 22JAN97 32 A42-86 AUXI INST. AISLACION CEDAZOS-BOMBA ALIMENTACION-9-2 0 4 8 22JAN97 22JAN97 32 A42-86 AUXI INST. AISLACION CEDAZOS-BOMBA ALIMENTACION-9-2 0 4 8 22JAN97 22JAN97 32 A42-86 AUXI INST. AISLACION CEDAZOS-BOMBA ALIMENTACION-9-2 0 4 4 24JAN97 24JAN97 24JAN97 32 A42-86 AUXI INST. AISLACION CEDAZOS-BOMBA ALIMENTACION-9-2 0 4 4 24JAN97 24JAN97 24JAN97 32 A42-86 AUXI INST. AISLACION CEDAZOS-BOMBA ALIMENTACION-9-2 0 4 4 24JAN97 24JAN97 24JAN97 32 A42-86 AUXI INST. AISLACION CEDAZOS-BOMBA ALIMENTACION-9-2 0 4 4 24JAN97 24JAN97 24JAN97 32 A42-86 AUXI INST. AISLACION CEDAZOS-BOMBA ALIMENTACION-9-2 0 4 4 24JAN97 24JAN97 24JAN97 32 A42-86 AUXI INST. AISLACION CEDAZOS-BOMBA ALIMENTACION-9-2 0 4 4 24JAN97 24JAN97 24JAN97 32 A42-86 AUXI INST. AISLACION CEDAZOS-BOMBA ALIMENTACION-9-2 0 4 4 24JAN97 24	I
A42-64 AUXI INST. TANQUE LUBRICACION- BOMBA ALIMENTACION 0 4 8 15JAN97 16JAN97 3	
### A42-66 AUXI INST. MOTOR BOMBA LUBRICACION-BOMBA ALIM. 9-2 0 4 8 15JAN97 17JAN97 ### A42-68 AUXI ACOPLAR BOMBA LUBRICACION-BOMBA ALIM. 9-2 0 4 4 17JAN97 17JAN97 ### A42-70 AUXI CERRAR COJINETES-BOMBA ALIMENTACION 9-2 0 4 4 17JAN97 18JAN97 ### A42-72 AUXI ALIMEAR MOTOR A BOMBA ALIMENTACION 9-2 0 4 8 18JAN97 20JAN97 ### A42-74 AUXI ACOPLAR MOTOR A BOMBA ALIMENTACION 9-2 0 4 8 20JAN97 20JAN97 ### A42-76 AUXI REP. CONECTAR LINEA P2O-BOMBA ALIMENTACION 9-2 0 4 8 21JAN97 20JAN97 ### A42-76 AUXI ILIMETEZA Y PINTAR AREA. BOMBA ALIMENTACION 9-2 0 4 8 21JAN97 20JAN97 ### A42-80 AUXI REMOVER AISLACION DE CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 8 21JAN97 22JAN97 ### A42-80 AUXI REMOVER CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 9 21JAN97 22JAN97 ### A42-80 AUXI INSTALAR CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 9 2JAN97 22JAN97 ### A42-80 AUXI INSTALAR CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 8 2JAN97 22JAN97 ### A42-80 AUXI INSTALAR CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 8 2JAN97 22JAN97 ### A42-80 AUXI INSTALAR CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 8 2JAN97 22JAN97 ### A42-80 AUXI INSTALAR CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 8 2JAN97 22JAN97 ### A42-80 AUXI INSTALAR CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 8 2JAN97 22JAN97 ### A42-80 AUXI INSTALAR CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 4 2JAN97 24JAN97 ### A42-80 AUXI PROBAR BOMBA ALIMENTACION 9-2 0 4 4 2JAN97 24JAN97 ### A42-80 OPE PROBAR BOMBA ALIMENTACION 9-2 0 1 4 2JAN97 24JAN97 ### A42-80 OPE PROBAR BOMBA ALIMENTACION 9-1 9-2 0 1 4 2DAN97 24JAN97 ### A42-80 OPE PROBAR BOMBA ALIMENTAR 9-1 0 1 16 13DEC96 1DDEC96 ### A42-80 OPE PROBAR BOMBA ALIMENTAR 9-1 0 1 16 13DEC96 2DEC96 2DEC96 ### A42-80 OPE PROBAR BOMBA ALIMENTAR 9-2 0 1 1 16 3DEC96 2DEC96 2DEC96 ### A42-80 OPE PROBAR BOMBA ALIMENTAR 9-2 0 1 1 16 3DAN97 05JAN97 ### A42-80 OPE PROBAR BOMBA ALIMENTAR 9-2 0 1 1 16 3DAN97 05JAN97 ### A42-80 OPE PROBAR BOMBA ALIMENTAR 9-2 0 1 1 16 3DAN97 05JAN97 ### A42-80 OPE PROBAR BOMBA ALIMENTAR 9-2 0 1 1 16 3DAN97 05JAN97 05JAN97 ### A42-80 OPE PROBAR BOMBA ALIMENTAR 9-2 0 1 1 16 3DAN97 05JAN9	
A42-68 :AUXI ACOPLAR BOMBA LUBRICACION-BOMBA ALIM. 9-2	
A42-70 AUXI CERRAR COJINETES-BOMBA ALIMENTACION 9-2	
A42-72 AUXI ALINEAR MOTOR A BOMBA ALIMENTACION 9-2 0 4 8 18JAN97 20JAN97 A42-74 IAUXI ACOPLAR MOTOR A BOMBA ALIMENTACION 9-2 0 4 8 20JAN97 20JAN97 A42-76 AUXI REP CONECTAR LINEA H20-BOMBA ALIMENTACION 9-2 0 4 16 21JAN97 22JAN97 A42-78 AUXI LIMPIEZAY PINTAR AREA-8 BOMBA ALIMENTACION 9-2 0 4 8 21JAN97 21JAN97 A42-80 AUXI REMOVER AISLACION DE CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 8 21JAN97 21JAN97 A42-82 AUXI REMOVER CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 8 21JAN97 22JAN97 A42-84 AUXI INSTALAR CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 8 22JAN97 22JAN97 A42-85 AUXI INSTALAR CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 8 22JAN97 22JAN97 A42-86 AUXI INSTALAR CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 8 22JAN97 22JAN97 A42-88 AUXI INSTALAR CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 8 22JAN97 24JAN97 A42-89 OPE PROBAR BOMBA ALIMENTACION 9-2 0 4 8 22JAN97 24JAN97 A42-89 OPE PROBAR BOMBA ALIMENTACION 9-2 0 1 4 2ZJAN97 24JAN97 E40-02 ELEC DESC. MOTOR ELECTRICO-BOMBA ALIMENTAR 9-1 0 1 4 10DEC-96 10DEC-96 E40-04 ELEC LIMP-INSP, ROTOR Y ESTATOR MTR BOMBA ALIM. 9-1 0 1 16 13DEC-96 16DEC-96 E40-02 ELEC CONECTAR MOTOR BOMBA ALIMENTAR 9-2 0 1 4 28DEC-96 66DEC-96 E40-12 ELEC CIMP-INSP, ROTOR Y ESTATOR MTR BOMBA ALIM. 9-1 0 1 16 30DEC-96 02JAN97 E40-04 ELEC CIMP-INSP, ROTOR Y ESTATOR MTR BOMBA ALIM. 9-1 0 1 16 30DEC-96 02JAN97 E40-04 ELEC CONECTAR MOTOR BOMBA ALIMENTAR 9-2 0 1 1 6 30DEC-96 02JAN97 E40-04 ELEC CIMP-INSP, ROTOR Y ESTATOR MTR BOMBA ALIM. 9-1 0 1 16 30DEC-96 02JAN97 E40-04 ELEC CIMP-INSP, ROTOR Y ESTATOR MTR BOMBA ALIM. 9-1 0 1 16 30DEC-96 02JAN97 E40-04 ELEC CIMP-INSP, ROTOR Y ESTATOR MTR BOMBA ALIM. 9-1 0 1 16 30DEC-96 02JAN97 E40-04 ELEC CIMP-INSP, ROTOR Y ESTATOR MTR BOMBA ALIM. 9-1 0 1 16 30DEC-96 02JAN97 E40-04 ELEC CIMP-INSP, ROTOR Y ESTATOR MTR BOMBA ALIM. 9-1 0 1 16 30DEC-96 02JAN97 E40-05 ELEC CIMP-INSP, ROTOR Y ESTATOR MTR BOMBA ALIM. 9-1 0 1 16 30DEC-96 02JAN97 E40-06 ELEC CIMP-INSP, ROTOR Y ESTATOR MTR BOMBA ALIM. 9-1 0 1 16 30DEC-96 02JAN97 E40-07 ELEC CIMP-INSP, ROTO	
A42-74 AUXI ACOPLAR MOTOR A BOMBA ALIMENTACION 9-2	
A42-75 AUXI REP CONECTAR LINEA H2O-BOMBA ALIMENTACION 9-Z 0 4 16 21JAN97 22JAN97 A42-78 AUXI LIMPIEZA Y PINTAR AREA- BOMBA ALIMENTACION 9-2 0 4 8 21JAN97 21JAN97 A42-80 AUXI REMOVER AISLACION DE CEDAZOS-BOMBA ALIM 9-2 0 4 4 21JAN97 22JAN97 A42-82 AUXI REMOVER CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 4 22JAN97 22JAN97 A42-84 AUXI INSTALAR CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 8 23JAN97 22JAN97 A42-86 AUXI INSTALAR CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 8 23JAN97 24JAN97 A42-88 AUXI PROBAR BOMBA ALIMENTACION 9-2 0 4 8 23JAN97 24JAN97 A42-89 OPE PROBAR BOMBA ALIMENTACION 9-2 0 4 4 24JAN97 24JAN97 A42-99 OPE PROBAR BOMBA ALIMENTACION 9-1 0 1 4 27JAN97 27JAN97 27JAN97 24JAN97 2	:
A42-78 AUXI LIMPIEZA Y PINTAR AREA- BOMBA ALIMENTACION 9-2 0 4 8 21JAN97 21JAN97 A42-80 AUXI REMOVER AISLACION DE CEDAZOS-BOMBA ALIM 9-2 0 4 4 21JAN97 22JAN97 A42-82 AUXI REMOVER CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 4 22JAN97 22JAN97 A42-84 AUXI INSTALAR CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 8 22JAN97 23JAN97 A42-86 AUXI INST. AISLACION CEDAZOS-BOMBA ALIMENTACION 9-2 0 4 8 23JAN97 24JAN97 A42-88 AUXI PROBAR BOMBA ALIMENTACION 9-2 0 4 8 23JAN97 24JAN97 A42-89 OPE PROBAR BOMBA ALIMENTACION 9-2 0 4 8 23JAN97 24JAN97 A42-99 OPE PROBAR BOMBA ALIMENTACION 9-1 0 1 4 10DEC96 10DEC	Ī
A42-80 AUXI REMOVER AISLACION DE CEDAZOS-BOMBA ALIM 9-2 A42-82 AUXI REMOVER CEDAZOS-BOMBA ALIMENTACION 9-2 A42-84 AUXI REMOVER CEDAZOS-BOMBA ALIMENTACION 9-2 A42-84 AUXI INSTALAR CEDAZOS-BOMBA ALIMENTACION 9-2 A42-85 AUXI INST. AISLACION CEDAZOS-BOMBA ALIMENTACION 9-2 A42-86 AUXI INST. AISLACION CEDAZOS-BOMBA ALIMENTACION 9-2 A42-87 AUXI PROBAR BOMBA ALIMENTACION 9-2 A42-88 AUXI PROBAR BOMBA ALIMENTACION 9-2 A42-89 OPE PROBAR BOMBA ALIMENTACION 9-1 Y 9-2 E40-02 ELEC DESC. MOTOR ELECTRICO-BOMBA ALIMENTAR 9-1 OO6 ELEC CIMP, INSP. ROTOR Y ESTATOR MTR BOMBA ALIM. 9-1 E40-04 ELEC LIMP, INSP. ROTOR Y ESTATOR MTR BOMBA ALIM. 9-1 E40-10 ELEC DESC. MOTOR ELECTRICO-BOMBA ALIMENTAR 9-2 E40-11 ELEC CONECTAR MOTOR BOMBA ALIMENTAR 9-2 E40-12 ELEC LIMP, INSP. ROTOR Y ESTATOR MTR BOMBA ALIM. 9-2 I40-02 PLIN MANT. CALIB. PRUEBA TRANS. NIVEL, FLUJO, PRESION 0 1 16 03JAN97 I40-04 PLIN MANT. CALIB. PRUEBA IP REGULADORA AGUA O 1 8 03JAN97 I40-06 PLIN MANT. CALIB. PRUEBA TRANS. NIVEL, FLUJO, PRESION 0 1 8 03JAN97 I40-08 PLIN MANT. CALIB. PRUEBA TRANS. DESCARGA SUCC 0 1 8 13JAN97 I40-01 PLIN MANT. CALIB. PRUEBA TRANS. DESCARGA SUCC 0 1 8 13JAN97 I40-01 PLIN MANT. CALIB. PRUEBA TRANS. DESCARGA SUCC 0 1 8 13JAN97 I40-14 PLIN MANT. CALIB. PRUEBA DISPARO BEPS NIVEL 0 1 8 14JAN97 I40-14 PLIN MANT. CALIB. PRUEBA DISPARO BEPS NIVEL 0 1 8 14JAN97 I40-14 PLIN MANT. CALIB. PRUEBA DISPARO BEPS NIVEL 0 1 8 14JAN97 I40-14 PLIN MANT. CALIB. PRUEBA DISPARO BEPS NIVEL 0 1 8 14JAN97 I40-14 PLIN MANT. CALIB. PRUEBA DISPARO BEPS NIVEL 0 1 8 14JAN97 I40-14 PLIN MANT. CALIB. PRUEBA DISPARO BEPS NIVEL 0 1 16 15JAN97 I40-14 PLIN MANT. CALIB. PRUEBA DISPARO BEPS NIVEL 0 1 16 15JAN97 I40-15 PLIN MANT. CALIB. PRUEBA DISPARO BEPS NIVEL 0 1 16 17JAN97 I40-16 PLIN MANT. CALIB. PRUEBA DISPARO BEPS NIVEL 0 1 16 17JAN97 I40-16 PLIN MANT. CALIB. PRUEBA DISPARO BEPS NIVEL 0 1 16 17JAN97 I40-17 PLIN MANT. CALIB. PRUEBA DISPOSITIVO AUTO-ARRANQUE 0 1 16 17JAN97 I40-18 PLIN PRUEBA SOLENOIDE INDICA VALVULA 0 0 1 8 21JAN97 I40-18 PLIN PRUE	1
A42-82 AUXI REMOVER CEDAZOS-BOMBA ALIMENTACION 9-2 A42-84 AUXI INSTALAR CEDAZOS-BOMBA ALIMENTACION 9-2 A42-84 AUXI INSTALAR CEDAZOS-BOMBA ALIMENTACION 9-2 A42-86 AUXI INST. AISLACION CEDAZOS-BOMBA ALIMENTACION 9-2 A42-88 AUXI PROBAR BOMBA ALIMENTACION 9-2 A42-89 OPE PROBAR BOMBA ALIMENTACION 9-1 E40-02 ELEC DESC. MOTOR ELECTRICO-BOMBA ALIMENTAR 9-1 OO6 ELEC CIMP, INSP. ROTOR Y ESTATOR MTR BOMBA ALIM. 9-1 E40-10 ELEC DESC. MOTOR ELECTRICO-BOMBA ALIMENTAR 9-1 OO6 ELEC CONECTAR MOTOR BOMBA ALIMENTAR 9-1 E40-12 ELEC LIMP, INSP. ROTOR Y ESTATOR MTR BOMBA ALIM. 9-2 OO7 E40-02 ELEC DESC. MOTOR ELECTRICO-BOMBA ALIMENTAR 9-2 OO8 ELEC CONECTAR MOTOR BOMBA ALIMENTAR 9-2 OO8 ELEC CONECTAR MOTOR BOMBA ALIMENTAR 9-2 OO8 ELEC CONECTAR MOTOR BOMBA ALIMENTAR 9-2 OO9 E40-14 ELEC CONECTAR MOTOR BOMBA ALIMENTAR 9-2 OO9 E40-14 ELEC CONECTAR MOTOR BOMBA ALIMENTAR 9-2 OO1	i
A42-84 AUXI INSTALAR CEDAZOS- BOMBA ALIMENTACION 9-2 0 4 8 22JAN97 23JAN97 A42-86 AUXI INST. AISLACION CEDAZOS- BOMBA ALIMENTACION 9-2 0 4 8 23JAN97 24JAN97 A42-88 AUXI PROBAR BOMBA ALIMENTACION 9-2 0 4 4 24JAN97 24JAN97 A42-99 OPE PROBAR BOMBA ALIMENTACION 9-1 Y 9-2 0 1 4 27JAN97 27JA	
A42-86 AUXI INST. AISLACION CEDAZOS- BOMBA ALIMENTACION 9-2 0 4 8 23JAN97 24JAN97 A42-88 AUXI PROBAR BOMBA ALIMENTACION 9-2 0 4 4 24JAN97 24JAN97 A42-99 OPE PROBAR BOMBA ALIMENTACION 9-1 Y 9-2 0 1 4 27JAN97	
A42-88 AUXI PROBAR BOMBA ALIMENTACION 9-2 A42-99 OPE PROBAR BOMBA ALIMENTACION 9-1 Y 9-2 E40-02 ELEC DESC. MOTOR ELECTRICO-BOMBA ALIMENTAR 9-1 E40-04 ELEC LIMPINSP. ROTOR Y ESTATOR MTR BOMBA ALIM. 9-1 O1 4 27JAN97 27JAN97 E40-05 ELEC CONECTAR MOTOR BOMBA ALIMENTAR 9-1 O1 4 26DEC.96 16DEC.96 AV E40-10 ELEC DESC. MOTOR ELECTRICO-BOMBA ALIMENTAR 9-2 E40-10 ELEC DESC. MOTOR ELECTRICO-BOMBA ALIMENTAR 9-2 E40-12 ELEC LIMPINSP. ROTOR Y ESTATOR MTR BOMBA ALIM. 9-2 E40-14 ELEC CONECTAR MOTOR BOMBA ALIMENTAR 9-2 E40-14 ELEC CONECTAR MOTOR BOMBA ALIMENTAR 9-2 I40-02 PLIN MANT. CALIB. PRUEBA TRANS. NIVEL, FLUJO, PRESION 0 1 16 03JAN97 08JAN97 I40-04 PLIN MANT. CALIB. PRUEBA IP REGULADORA AGUA 0 1 8 08JAN97 09JAN97 I40-05 PLIN MANT. CALIB. PRUEBA TRANS. NIVEL OBESVIO 0 1 8 03JAN97 10JAN97 I40-10 PLIN MANT. CALIB. PRUEBA TRANS. NIVEL 0 1 8 13JAN97 14JAN97 I40-11 PLIN MANT. CALIB. PRUEBA DISPARO BFP'S NIVEL 0 1 8 13JAN97 15JAN97 I40-12 PLIN MANT. CALIB. PRUEBA DISPARO BFP'S NIVEL 0 1 8 14JAN97 15JAN97 I40-14 PLIN MANT. CALIB. PRUEBA DISPARO BFP'S NIVEL 0 1 16 15JAN97 17JAN97 I40-15 PLIN MANT. CALIB. PRUEBA DISPARO BFP'S NIVEL 0 1 16 17JAN97 21JAN97 I40-16 PLIN MANT. CALIB. PRUEBA DISPARO BFP'S NIVEL 0 1 16 17JAN97 21JAN97 I40-17 PRUEBA SOLENOIDE-INDICAVALVULA 0 1 18 21JAN97 22JAN97 I40-18 PLIN PRUEBA SOLENOIDE-INDICAVALVULA 0 1 18 21JAN97 22JAN97	
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BOMBAS DE CIRCULACION 9-1 Y 9-2: A51-04 AUXI DESACOPLAR Y REM.MOTOR DE BOMBA CIRC. 9-1 0 4 16 10DEC96 11DEC96	
N1-06 AUXI REM. COJINETES,ABRIR MTRREM. RTR BOMBA CIRC 0 4 16 12DEC96 13DEC96	
31-08 AUXI MEDIR COJINETES-MUNONES RTR(MTR BOMBA CIRC.#1 0 4 8 13DEC96 14DEC96	
A51-10 AUXI LIMP.,INSP. PIEZA TORNILLERIA GEN. BOMBA CIRC.#1 0 4 8 10DEC96 10DEC96	
A51-12 AUXI INSPBALANCE RTR MOTOR T.M.G. BOMBA CIRC. 9-1 0 4 16 17DEC96 19DEC96	
A51-14 AUXI INSTALAR ROTOR EN ESTATOR MOTOR BOMBA CIRC. 0 4 8 19DEC96 19DEC96	:

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ID:	A	description I I ARMAR MOTOR ELECTRICO BOMBA CIRC. 9-1		11.3	DUR	start 20DEC96	finish 2105000	2 9 16 23	30 6 33 20 27 3 10
A51-16			1		-			T CM	.:
A51-20	,	I REM. TORNILLOS Y EMPAQUETADURA BBA. CIRCUL9-1	1	4		12DEC96		X	:
\$51-22		I REM. BOMBA CRCULACION 9-1	1	4		12DEC96		A	
A51-24		REMOVER CURVA DESCARGA BOMBA CIRCULACION		4		12DEC96	13DEC96	87	
A51-26		REM. CAJUELA INTERIOR ,EJE BOMBA CIRCULACION 9-1	1	4		13DEC96	13DEC96	X	
A51-28		I HACER "RUN OUT" EJE BOMBA CIRCULACION 9-1	1	4		13DEC96	14DEC96	₽.	
A51-30	1	I REMOVER CAJUELA INTERMEDIO- BOMBA CIRC. 9-1		4	16	21DEC96	24DEC96	357	
A51-32	AUX	I INST. EMPAQUETADURAS LUBRICACION BBA CIRC. 9-1	1 0	4	8	24DEC96	26DEC96	27	
A51-34	AUX	FREMPLAZAR CHUMACERAS BOMBA CIRCULACION 9-1	0	4	8	26DEC96	26DEC96	₹	
A51-36	AUX	MONTAR BOMBA CIRCULACION 9-1	. 0	4	16	27DEC96	28DEC96	.57	
A51-38	AUX	I INST. EN SITIO BOMBA CIRCULACION 9-1	0	4	4	28DEC96	30DEC96	AS	•
A51-40	AUX	I ALINEAR BOMBA Y MOTOR, BOMBA CIRCULACION 9-1	0	4	8	30DEC96	30DEC96	7	4
A51-42	AUX	PROBAR BOMBA CIRCULACION 9-1	0	4	4	31DEC96	31DEC96	2	2
A51-99	OPE	PROBAR BOMBA CIRCULACION 9-1	0	1	4	31DEC96	31DEC96		2
E38-02	ELEC	DESCONECTAR MOTOR BOMBA CIRCULACION 9-1	0	1	4	10DEC96	10DEC96	2	
E38-04	ELEC	MANTENIMIENTO MOTOR BOMBA CIRCULACION 9-1	0	1	16	13DEC96	17DEC96	4	
E38-06	ELEC	CONECTAR MOTOR BOMBA CIRCULACION 9-1	0	4	4	31DEC96	31DEC96	X	X :
138-02	PLIN	MANT, CALIB, PERMISIVOS ARRANQUE	0	1	8	31DEC96	02JAN97		9
138-04	PLIN	MANT.CALIB.ALARMAS PRESION AGUA SELLO	0	1	8	02JAN97	03JAN97		8
ABANICO	FORZ	ADO 9-1 Y 9-2	i i		333950				i
A61-02		LIMPIAR AREA- DESACOPLAR MTR ABANICO FORZADO	0	4	8	31DEC96	02JAN97	4	v
A61-04	AUXI	SOLTAR MOTOR DE BASE- ABANICO FORZADO 9-1	0	4	8	02JAN97	03JAN97		AZ :
71-18	AUXI	REMOVER COJINETES ABANICO FORZADO 9-1	0	4	16	03JAN97	07JAN97		AST
.61-20	AUXI	REPARAR COJINETES ABANICO FORZADO 9-1	0	4	24	07JAN97	09JAN97		AST
A61-22	AUXI	INSTALAR COJINETES ABANICO FORZADO 9-1	0	4	24	09JAN97	13JAN97		AN7 :
A61-24	AUXI	ALINEAR MOTOR AL ABANICO FORZADO 9-1	0	4	8	13JAN97	13JAN97		M i
A61-26	AUXI	ACOPLAR EL MOTOR AL ABANICO FORZADO 9-1	0	4	8	14JAN97	14JAN97		Z
A61-28	AUXI	BALNCEAR ABANICO SI NECESARIO-FORZADO 9-1	0	4	16	15JAN97	16JAN97		M
A61-30	AUXI	ACONDICIONAR CONTROL VANES- ABANICO FORZADO	0	4	8	17JAN97	17JAN97		₩.
A61-99	OPE	PROBAR ABANICO FORZADO 9-1	0	1	4	15JAN97	15JAN97		X
A62-02	AUXI	LIMPIAR AREA-DESACOPLAR MTR ABANICO FORZADO	0 4	4	8	17JAN97	18JAN97		Z ·
A62-04	AUXI	SOLTAR MOTOR DE BASE- ABANICO FORZADO 9-2	0 4	6	8 1	18JAN97	20JAN97		AST
A62-18	AUXI	REMOVER COJINETES ABANICO FORZADO 9-2	0 4	•	16	20JAN97	22JAN97		Ø
A62-20	AUXI	REPARAR COJINETES ABANICO FORZADO 9-2	0 4	•	24 2	22JAN97	24JAN97		A
A62-22	AUXI	INSTALAR COJINETES ABANICO FORZADO 9-2	0 4	+	24 2	24JAN97	28JAN97		AV
		ALINEAR MOTOR AL ABANICO FORZADO 9-2	0 4	+	8 2	28JAN97	28JAN97		Z
		ACOPLAR MOTOR AL ABANICO FORZADO 9-2	0 4	+	8 2	9JAN97	29JAN97		X
		BALANCEAR ABANICO SI NECESARIO-FORZADO 9-2	0 4	+	16 3	OJAN97	31JAN97		À
Control of the contro	AND SECTION AND SECTION ASSESSMENT	ACONDICIONAR CONTROL VANES-ABANICO FORZADO	0 4	+	80	1FEB97	01FEB97		×
10.110.000		PROBAR ABANICO FORZADO 9-2	0 1	+	4 3	OJAN97	30JAN97		ZZ
(A) (A) (A) (A) (A) (A) (A) (A) (A) (A)		DESCONECTAR MOTOR ABANICO FORZADO #1	0 1	+			31DEC96	***	
1		MANTENIMIENTO ESTATOR ABANICO FORZADO #1	0 1				07JAN97		367
CONTRACTOR TO THE		MANTENIMIENTO ROTOR ABANICO FORZADO #1	0 1				08JAN97		EZ
1		CONECTAR MOTOR ABANICO FORZADO #1	01				15JAN97		X
		DESCONECTAR MOTOR ABANICO FORZADO #2	0 1				15JAN97		X ·
		MANTENIMIENTO ESTATOR ABANICO FORZADO # 2	0 1	+			21JAN97	+	A :
		MANTENIMIENTO ROTOR ABANICO FORZADO # 2	01				22JAN97		M
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Activity	ARE	Activity Activity	%	N 1999.	(1) (1) (COO) (1)	a Early	Early.			1	
ID		description		2000	D DUI		finish	7	DEC 9 18.23	JAN 13-20	27.3 .10
E36-40		C CONECTAR MOTOR ABANICO FORZADO #2	-	1		4 30JAN97	30JAN97				A
130-02	1	MANT-PRUEBA-SOLENOIDES ALABES CONTROL		1	1	11DEC96	11DEC96		A		i.
30-04	PLI	MANT-PRUEBA SOLENOIDES ALABES DE CIERRE	1 0	1	1	12DEC96	12DEC96		2	1	•
130-06	PUN	MANT-PRUEBA SOLENOIDES INDICACION FRENOS	0	1	1	13DEC96	13DEC96		H		:
130-08	PLIN	INSP.LINEAS Y EQUIPO ASOCIADO TX FLUJO AIRE	. 0	1	1	13DEC96	16DEC96		AST		
130-10	PLIN	I REMPLAZO TX FLUJO DE AIRE	. 0	1	24	16DEC96	19DEC96		AV		
130-12	PLIN	MANT-PRUEBA TERMOPARES CONTROL AIRE ENTRADA	0	1	1 8	19DEC96	20DEC96	1	₽.		
130-14	PLIN	I INST-CALIBPRUEBA NUEVOS ANALIZADOR O2	0	1	24	20DEC96	26DEC96		307	İ	
130-16	PLIN	INSPCALIBPRUEBA OPACIMETROS	0	1	8	26DEC96	27DEC96		A		
ABANIC		IRCULACION DE GASES								1	:
A70-02	AUX	LIMPIEZA EXT DESACOPLAR EL MOTOR (GRF)	. 0	4	8	31DEC96	31DEC96		1	*	
A70-04	AUX	REMOVER ENVOLVENTES DEL MOTOR (GRF)	0	4	16	31DEC96	03JAN97			357	
A70-06	AUX	REMOVER COJINETES DEL MOTOR (GRF)	0	4	8	31DEC96	02JAN97			S	1 1
A70-08	AUX	REMOVER ROTOR DEL MOTOR (GRF)	0	4	8	02JAN97	03JAN97			A	
A70-12	TMG	BALANCEAR EL ROTOR (GRF)	0	4	24	09JAN97	11JAN97			AST .	
A70-14	AUX	REPARAR COJINETES DEL MOTOR (GRF)	0	4	16	02JAN97	04JAN97			Ø	
A70-16	AUX	INSTALAR ROTOR DEL MOTOR (GRF)	0	4	8	13JAN97	13JAN97			×	
A70-18	AUX	INSTALAR COJINETES DEL MOTOR (GRF)	0	4	8	13JAN97	14JAN97			Ø	
A70-20	AUX	ARMAR EL MOTOR (GRF)	0	4	24	14JAN97	16JAN97			₽.	
A70-22	AUX	REMOVER COJINETES ABANICO (GRF)	0	4	8	17JAN97	17JAN97			A	
A70-24	AUXI	REPARAR COJINETES SI NECESARIO (GRF)	0	4	16	17JAN97	20JAN97			S	+
A70-26	AUXI	INSTALAR COJINETES DEL ABANICO (GRF)	0	4	16	20JAN97	22JAN97			Ø	
0-28	AUXI	INSPECCION Y REP. SI NECESARIO SELLO AIRE (GRF)	0	4	16	22JAN97	23JAN97			A	
/0-30	AUXI	ALINEAR MOTOR AL ABANICO (GRF)	0	4	8	23JAN97	24JAN97			A	
A70-32	AUXI	ACOPLAR MOTOR AL ABANICO (GRF)	0	4	8	23JAN97	24JAN97			Ø	
A70-34	AUXI	ACONDICIONAR CONTROL VANES (GRF)	0	4	8	24JAN97	25JAN97			N	
A70-35	AUXI	REPARAR COJINETES DAMPER GRF	0	4	48	31DEC96	08JAN97		4	1007	
A70-36	OPE	PROBAR ABANICO (GRF)	0 4	4 .	4	27JAN97	27JAN97				- 1
A70-38	AUXI	BALANCEAR ABANICO SI NECESARIO	0	6	8	27JAN97	28JAN97			E	, 1
E36-42	ELEC	DESC. MOTOR ABANICO RECIRCULAR GASES	0 1	·	4	10DEC96	10DEC96	2			1
E36-44	ELEC	MANT, MOTOR ABANICO RECIRCULAR GASES	0 1	ī	16	03JAN97	08JAN97	+		AN	
E36-46	ELEC	LIMPIAR ROTOR ABANICO RECIRCULAR GASES	0 1		8	08JAN97	09JAN97			ZZ	
E36-48	ELEC	CONECTAR MOTOR ABANICO RECIRCULAR GASES	0 1		4	24JAN97	27JAN97			AST.	
136-06	PLIN	MANTPRUEBA EQUIPO ALABES CIERRE	0 1		8 (2JAN97	03JAN97		k	Z	
136-08	PLIN	MANTPRUEBA ALABES DE SELLO	0 1		8 0	BJAN97	07JAN97			357	1.
136-12	PLIN	PRUEBA INTERLOCK DISP.ABANICO-ALABES	01		24 0	7JAN97	10JAN97	+		A	
N36-04	PLN	MANT. ACTUADOR ALABES CIERRE (SHUT-OFF)GRF	01		16 0	ZJAN97	07JAN97		4	387	
PREPARA	CION	TRABAJOS CALDERA						\dashv	+		
B04-02	APCL	ABRIR LAS PUERTA, TIEMPO ENFRIAMIENTO CALDERA	03		8 1	ODEC96	10DEC96	*			
B04-04	APCL	PRUEBA HIDROSTATICA	0 1		4 1	ODEC96	10DEC96	*			
		LIMPIAR FONDO DEL HORNO	0 3		8 1	00EC96	10DEC96	*			
		INSTALAR ANDAMIOS DENTRO DE CALDERA	03		24 1	ODEC96	11DEC96	A			
74-12		LAVAR CHIMENEAS Y CALENTADORES DE AIRE	03		12 1	ODEC96	IODEC96	Ø			
		LIMPIAR CALENTADORES AIRE Y EMBUDOS AIRE Y GAS	03	1	20 1	ODEC96	11DEC96	A			
		LAVAR ECONOMISADOR -SOBRECALENTADOR BAJA	03		8 1		11DEC96	Z			
		LIMPIEZA EMBUDOS DEL ECONOMISADOR	03				2DEC96	Z			
804-22	CON	LAVAR LOS CONDUCTOS Y EMBUDOS DE AIRE Y GAS	0 3		8 1	2DEC96	2DEC96	¥			

Activity	y ARI	Activity description	%	1 CONTRACTOR	RE	Mir Eatly R stan	Early -	DEC	JAN FE
Pub/980505 -uc/8885	CO	N LAVAR RECALENTADOR Y SOBRECALENTADOR DE	0	3	±10000	8 12DEC96		2 9 16 23	08 13 20 27 3 10
904-30	1	NILAVAR LOS ENVOLVENTES DE LOS CABEZALES	. 0	3	-	8 12DEC96			•:
04-32		N LAVAR A PRESION PARED DE TUBOS CALDERA	- 0	3		8 12DEC96	1	- Z	1
		I LIMPIAR FONDO DEL HORNO Y "DOG HOUSE"		3	_	8 13DEC96			
11		N ILAVAR LA CALDERA POR FUERA		13		4 10DEC96			
		N :LIMPIEZA TRINCHERA Y ALREDEDOR CALDERA		13		8 13DEC96			
L	- 1				<u></u>	o robecoo	13DEC96	Z.	
		JBERIA PISO "MUD DRUM"::: LIREMPLAZO CURVAS MUD DRUM PARED NORTE	0	12	57	0 13DEC96	27JAN97	Assessment	y
	1	DORES DE AIRE 9-1 Y 9-2	,			1.0000		1	
Company of the Comment of the Commen		CLIABRIR PUERTAS PRECALENTADOR 9-1	-	1		4 10DEC96	10DEC96	- AT	
B22-08		REMOVER SELLOS PRECALENTADOR 9-1	10	1	2.	4 10DEC96	13DEC96	AV	
822-16	1	LLINSPMANT.SUPPORT,GUIDE BRG. 9-1		1		4 13DEC96		T _M	
B22-19		LIREPARACION DRENAJES A.H.S.	-	1		5 16DEC96		ANY	
B22-88		LINSTALAR SELLOS PRECALENTADOR 9-1	0			4 200EC96		ANY	
		CERRAR PUERTAS PRECALENTADOR 9-1	0	100	_	4 26DEC96		Z	
822-96									:
823-04		L ABRIR PUERTAS PRECALENTADOR 9-2	0			4 10DEC96		A	1
823-08		L REMOVER SELLOS PRECALENTADORES 9-2	0			10DEC96	10.00.00.00.00.00.00.00.00.00.00.00.00.0	AS	
B23-16		LINSPMANT.SUPPORT,GUIDE 8RG. 9-2	0			16DEC96		M	\$
B23-88	1	LINSTALAR SELLOS PRECALENTADOR 9-2	0			16DEC96		AST	i
B23-96		L CERRAR PUERTAS PRECALENTADOR 9-2	0			19DEC96		A	i
E20-02	ELE	DESC.MOTOR PRECALENT-AIRE 9-1	0			100EC96	10DEC96	X	
E20-04	ELE	MANT.MOTOR PRECALENT-AIRE 9-1	0	1	4	10DEC96	10DEC96	X	
0-06	1	CONECT.MOTOR PRECALENT-AIRE 9-1	0	1	4	10DEC96	11DEC96	.₩	
0-08	ELE	DESC.MOTOR PRECALENT-AIRE 9-2	0	1	2	11DEC96	11DEC96	X	
E20-10	ELE	MANT.MOTOR PRECALENT-AIRE 9-2	0	1	4	11DEC96	11DEC96	X	:
E20-12	ELEC	CONECT.MOTOR PRECALENT-AIRE 9-2	0	1	4	12DEC96	12DEC96	XX	
E20-14	ELEC	DESCONECTR MOTOR COJINETE GUIA #1	0	1	2	12DEC96	12DEC96	X	
E20-16	ELEC	LIMPIAR MOTOR COJINETE GUIA #1	0	1	2	12DEC96	12DEC96	XX	: 1
E20-18	ELEC	CONECTAR MOTOR COJINETE GUIA #1	0	1	2	13DEC96	130EC96	X	
E20-20	ELEC	DESCONECTAR MOTOR COJINETE GUIA #2	0	1	2	13DEC96	13DEC96	X	: 1
E20-22	ELEC	LIMPIAR MOTOR COJIENTE GUIA #2	0	1	2	13DEC96	13DEC96	X	:
E20-24	ELEC	CONECTAR MOTOR COJINETE GUIA #2	0	1	2	13DEC96	13DEC96	M	:
E20-26	ELEC	DESCONECTAR MOTOR COJINETE DE EMPUJE #1	0 1	1	2	16DEC96	16DEC96	Z	
E20-28	ELEC	LIMPIAR MOTOR COJINETE DE EMPUJE #1	0 1		2	16DEC96	16DEC96	M	:
E20-30	ELEC	CONECTAR MOTOR COJINETE DE EMPUJE #1	0 1	1	2	16DEC96	16DEC96	2	
E20-32	1000	DESCONECTAR MOTOR COJINETE DE EMPUJE #2	0 1	+	2	16DEC96	16DEC96	Ø	***
E20-34		LIMPIAR MOTOR COJINETE DE EMPUJE #2	0 1	\dashv	2	17DEC96	17DEC96	Z	
E20-36	100000000000000000000000000000000000000	CONECTAR MOTOR COJINETE DE EMPUJE #2	0 1	+	2	17DEC96	17DEC96	M	
120-02		MANT.TERMOPAR AREA AIRE(A.H.)	0 1	+	40	10DEC96	16DEC96	A 1	!
120-04		MANT.TERMOPAR AREA GAS(A.H.)	0 1	+	40	17DEC96	23DEC96		
		CALIBRACION I/P'S REG. DE LOS STEAM COILS	0 1	+	8	24DEC96	24DEC96	X	1
120-08		MANT-PRUEBA SOLEN ALARMA TURB AIRE	0 1	+	8	26DEC96	26DEC96	Ø	
		REMOCION Y DISPOSICION GABINETE AREA AIR	0 1	+			11DEC96	82	
		E HOLLIN						++	
_4-02	APCL	INSP. Y REPARAR SOPLADORES DE VAPOR	0 1	45 114	30	11DEC96	16DEC96	2367	
		MODIFICACION INSTALACION SOPLETES ECONOMISER	0 4	12	260	11DEC96	14JAN97	A	NUSY .
	F1	MANT, MAGNETICO E INTERRUPTORES LIMITES	0 1	+	90	16DEC96	02JAN97	A STATE OF	
210-02									

Activity	ARE	Activity	%	10003.303	REM	1/2/2000/00/00/00/00	Early	- BPA	JAN I FE
Ö		description		20000	DUR		finish	2 9 162	3308 1320273 :10
E18-04		PRUEBA DE RECORRIDO DE LOS SOPLETES		1		03JAN97	03JAN97		A
18-06		MANT, SIST, SOPLADO CALENTADORES DE AIRE		1	8	10DEC96	10DEC96	7	
18-08	ELEC	MANTENIMIENTO ELECTRICO "THERMO PROBE"	0	1	4	11DEC96	11DEC96	Ø	
126-02	PLIN	MANT. PRUEBA INSTRUMENTACION ASOCIADA	0	1	24	11DEC96	16DEC96	300	i
126-04	PLIN	INSTRASOCIADA NUEVO THERMOPROVE	0	1	24	16DEC96	19DEC96	AV	
M26-06	PLM	REM.VALVULA -INST. NUEVO CUERPO(REG. VAPOR)	0	1	8	11DEC96	11DEC96	Z Z	
N26-02	PLN	MANT. VALVULA REGULADORA, EQUIPO SOPLADO	0	1	48	12DEC96	19DEC96	AND AND	
N26-06	IPLN	MANT.THERMAL DRAIN SISTEMA SOPLADO	0	1	120	20DEC96	14JAN97	7	WANTERY
TRABAJO	O TUBE	RIA VESTIBULO SOBRECALENTADOR		right.	ri iiii				1
		REM.CASING,AISLACION-TUBERIA AREA VESTIBULO	0	2	120	12DEC96	20DEC96		
826-04	APCI	BISELAR TUBERIA VESTIBULO SOBRECALENTADOR	0	2	100	21DEC96	30DEC96		BES .
B26-06	APCL	PREPARAR-INSTALAR TUBERIA AREA	0	2	100	30DEC96	08JAN97	1	
826-08	APCL	SOLDAR TUBERIA VESTIBULO SOBRECALENTADOR	0	2	200	08JAN97	22JAN97		
B26-10	APCL	SOLDAR MEMBRANAS VESTIBULO SOBRECALENTADOR	0	2	100	23JAN97	30JAN97	1	
B26-12	APCL	INST. AISLACION-CASING EXTERIOR VESTIBULO	0.	2	80	30JAN97	05FEB97		4
AREAQL	JEMAD	ORES							
B28-20		REMPLAZO DE MIRILLAS DE OBSERVACION	0	1	42	10DEC96	170EC96	3007	
B28-30	APCL	INSPCALIBR. MECANISMO QUEMADORES	0	1	4	11DEC96	11DEC96	N X	1
828-32	APCL	INSPMANT. DIFUSORES	0	1	8	11DEC96	12DEC96	M	
B28-35	APCL	CALIBRACION DE QUEMADOR	0	1	8	12DEC96	13DEC96	A	
B28-36	APCL	REEMPLAZO CAJUELAS MIRILLAS OBSERVACION	0	1	16	13DEC96	17DEC96	AN7	
B28-40	APCL	PROBAR LOS QUEMADORES	0	1	8	17DEC96	18DEC96	A	
1-02	PLIN	MANTENIMIENTO A SELENOIDES Y EQUIPO ASOCIADO	0	1	36	13DEC96	19DEC96	4307	
4-04	PLIN	MANT-CALIB-PRUEBA INTERRUPT. LIMITE QUEMADOR	0	1	36	20DEC96	27DEC96	300	7
124-06	PLIN	INSP-MANT-PRUEBA SOLEN."AIR SLIDE-GUN INSERF"	0	1	36	27DEC96	03JAN97	1 6	508 7
124-08	PLIN	REMPLAZO LOGICA ABC QUEMADORES	0	1	160	11DEC96	10JAN97	30000	TOTAL STATE OF THE
124-10		INSTALACION NUEVOS IGNITERS	0	1	80	13JAN97	24JAN97		_Deusy
200000000000000000000000000000000000000		FOGUEO DE QUEMADORES	0	1	40	27JAN97	31JAN97		AS
N24-04	and the same of th	MANTENIMIENTO PISTONES NEUMATICOS	0	1	80	12DEC96	27DEC96	ANNO	,
NAME OF THE PARTY	100000000000000000000000000000000000000	MANT, VALVULAS TRIFECTAS -EQUIPO ASOCIADO	0	1	32	27DEC96	03JAN97	1 . 8	
10000000000000000000000000000000000000		EGURIDAD	Mass						-
B30-02	APCL	MANT, VALVULAS SEGURIDAD DEL CALDERIN	0	1	16	11DEC96	12DEC96	Ø	
B30-04	APCL	MANT, VALV, SEGURIDAD SOBRECALENTADOR ALTA	0	1	16	13DEC96	16DEC96	A97	
B30-06	APCL	MANT, VALV. SEGURIDAD CALENTADOR DE ALTA TEMP.	0	1	16	17DEC96	18DEC96	M	
B30-08	APCL	MANT, VALV. SEGURIDAD RECALENTADOR DE BAJA	0	1	16	19DEC96	200EC96	Ø	
830-10	APCL	CALIB.VALV. SEGURIDAD SEGUN ESPECIFICACIONES	0 1	\vdash	8 2	23DEC96	23DEC96	X	
	!	INDARIAS			300005553				
B32-02	APCL	EMPAQUETAR VAVULA DE TRONCO Y SECUNDARIAS	0 1	T	20 2	24DEC96	27DEC96	49	
B32-04	APCL	INSPECCION Y MANT. VALVULAS BLOW DOWN	0 1		56 2	27DEC96	09JAN97	A	
B32-06	APCL	CAMBIAR VALVULAS DEFECTUOSAS	0 1		8 0	9JAN97	10JAN97		Ø
CONDUCT	ros, El	MBUDOS Y DAMPERS							
B36-02	APCL	PREPARATIVOS PARA REPARAR CONDUCTOS	0 1		4 1	3DEC96	13DEC96	X	!
All I		REP.CONDUCTOS DE ENTRADA DE GASES 9-1	0 1				16DEC96	AS	i
		REP.CONDUCTOS DE ENTRADA DE GASES 9-2.	0 1		10 1		17DEC96	M	:
		REP.CONDUCTO DE SALIDA DE AIRE.	0 1	1	10 1		19DEC96	₩.	
		REP.CAJA DE VIENTO ELEVACION FT @ FT	0 1		8 1	9DEC96	20DEC96	Ø	
		REP.CONDUCTOS SUCCION Y DESCARGA GRF	0 1			ACTOR ACTOR	31DEC96	2500	
		REP.DAMPERS SEGUN SEA NECESARIO	0 1		16 3	1DEC96	03JAN97		\$57

Activity ID	ARE	A Activity description	1%	$\infty \infty$	0000	M Early R start	Early, finish	DEC	JAN F
A 400 100 5 10 A 400 F 10	IAPC	LI SUAVIZAR Y LUBRICAR TODOS LOS DAMPERS		0 1	0000 <u>+</u> 000000	6 03JAN97	000000000000000000000000000000000000000	12 9 182	308 1320273 1
UNTAS	EXPA	NSIONES:							
		L, INSP-REPARAR JUNTAS DE EXPANCIONES		0 1	4	13DEC96	19DEC96		
		Y CASING	1	0 1	1	2 10JAN97	13JAN97		207
		CALDERA:							
		L:INSPECCIONAR TECHO	-	0 1		4 13DEC96	13DEC96	X	
		AS PRINCIPALES (HANGER)) 1	1 2	4 110EC96	13DEC96	287	i
		LIREP, Y CALIBRAR SOPORTE MAIN STEAM) 1	<u> </u>	4 16DEC96			
		LIREP. CALIBRAR SOPORTES HOT REHEAT	1	0 1	1		23DEC96		
		LIREP. CALIB. SOPORTES COLD REHEAT	1	1			27DEC96		
	1			1.		+ 2 4DCG30	1270ECS0		1
		ENTREGA UNIDAD:	T	1	7	4 30JAN97	30JAN97		¥
B90-04		REPARAR ESCAPES EN TUBERIA, HACER	10	1	+-	8 31JAN97	31JAN97	-	¥
B90-06	APCI	REMOVER ANDAMIOS Y PLATAFORMAS DE LA CALDER	4 0	1	1	6 03FEB97	04FEB97	-	a a
B90-10	APCI	CERRAR PUERTAS DE ACCESO	0	1	+	4 05FEB97	05FEB97	-	a a
890-12	APCL	HACER LIMPIEZA GENERAL Y SACAR BASURA	0	1	+-	05FEB97	06FEB97	4	M
B90-14	APCL	ARRANQUE DE LA CALDERA	0	1	1	3 06FEB97	07FEB97		A
T90-06	OPE	ENTREGA DE LA UNIDAD	0	2	+	07FEB97	07FEB97	-	X
HARTO	DEIN	TERRUPTORES::::::::::::::::::::::::::::::::::::	1	<u> </u>	<u> </u>	L William N. S.			
		MANT.MAGNETICOS 480V.	0	1	40	10DEC96	16DEC96	4	
E35-04	ELEC	MANT.TRANSF.NORMAL 4160/480	0	1	16	17DEC96	18DEC96	Z Z	
15-06	ELEC	MANT.TRANSF.NORMAL INSTR.Y SUS INTERRUPTORES	0	1	16	19DEC96	20DEC96	3	
£35-08	ELEC	MANT.INTERRUPTOR TRANSF. POTENCIA INSTRU.	0	1	1	23DEC96	23DEC96	Z	
QUIPOA	UXILI	ARES:							
		DESC. MOTOR ABANICO SELLO #1 (ELIMINARLO)		1	1	10DEC96	1] ₽	
		DESC. MOTOR ABANICO SELLO #2 (ELIMINARLO)		1	1	10DEC96	10DEC96	A	
E36-74	ELEC	DESC.MOTOR BFWPP AUX OIL PP #1	0		2	100EC96	10DEC96	2	
36-76		MANT.MOTOR BFWPP AUX. OIL PP #1	0	1	4	10DEC96	10DEC96	X	
	1	CONECT.MOTOR BFWPP AUX OIL PP #1	0	1	2	10DEC96	10DEC96	X	-
		DESC.MOTOR BFWP AUX.OIL PUMP 9-2	0	1	2	11DEC96	11DEC96	N N	1
		MANT.MOTOR BFWP AUX.OIL PUMP 9-2	0		4	11DEC96	11DEC96	X	
36-84	ELEC	CONECT.MOTOR BFWP AUX.OIL PUMP 9-2	50	1	2	11DEC96	11DEC96	×	
UEVOS F	ROYE	CTOS			240	lanne ooc	0014100		
		MODIFICACION CALDERA A TIRO BALANCEADO	0				23JAN97		
1		REMPLAZO INDICADORES VERTICALES	0	1	100	11DEC96	31DEC96		
		RUCTURA:TERRENO	0	1	24	100EC96	120FC96	257	
		PRUEBA URANINE	0				13DEC96	Tag	
1		LIMP.TORRE ENFRIAMIENTO(BASING)	0			16DEC96		X	
		LIMP-PINTURA TANQUE PRINC, TURBINA EXTERIOR	0			10DEC96		20	
1		LIMP-PINTURA TANQUE BOWSER EXTERIOR	0			130EC96		AV	
		LIMP AREA QUEMADORES	0 1				03FEB97		; 2
	- 1	LIMP.STEAM COILS	0 1				21JAN97		
		LIMP.TRAVELLING SCREENS	0 1				27JAN97		
		LIMP.CUARTO MAQUINAS-BOMBAS	0 1	1			23JAN97		AT
		PINTURA GABINETE OPACIMETROS	0 1	1	16	23JAN97	27JAN97		27
		AISL-REDUCING STATION-CALENT.H20	0 1	+			30JAN97		4

Activity ID	ARE	A Activity description	%	CAL ID	REM DUR	#40000002-000000000000000000000000000000	Early		EC 1623	JAN FE
SISTEMA	LUBE	RICACION TURBINA	1 0	4	7	23DEC96	23DEC96		X	
		CIDESC. MOTOR BOMBA LUB.A.C # 9-1	0							
102-04		MANT.MOTOR BOMBA LUB.AC # 9-1				23DEC96	24DEC96		A	
E02-06	1	CONECTAR MOTOR BOMBA LUB AC # 9-1	0			24DEC96	24DEC96	4	X	:
E02-08		DESC. MOTOR BOMBA LUB.A.C # 9-2	0			24DEC96	24DEC96		X	
E02-10		MANT.MOTOR BOMBA LUB.AC # 9-2	0			24DEC96	26DEC96		Ø	
0.0000000000000000000000000000000000000		CICONECTAR MOTOR BOMBA LUB AC # 9-2	0			26DEC96	26DEC96		X	
E02-14		DESC.MOTOR BOMBA LUB. DC	0			26DEC96	26DEC96		Z	
E02-16		CONEC.MOTOR BOMBA LUB. DC	0		2	26DEC96	26DEC96		X	
E02-18	ELEC	DESC. MOTOR EXTRACTOR DE GASES	0	1	2	27DEC96	27DEC96		37	
E02-20	ELEC	MANT. MOTOR EXTRACTOR DE GASES	0	1	4	27DEC96	27DEC96		X	
E02-22	IELEC	CONEC.MOTOR EXTRACTOR DE GASES	0	1	2	27DEC96	27DEC96		X	
E02-24	ELEC	DESC. MOTOR BOMBA ACONDICIONADORA	0	1	2	30DEC96	30DEC96		Σ	
E02-26	ELEC	MANT, MOTOR BOMBA ACONDICIONADORA	0	1	4	30DEC96	30DEC96		2	
E02-28	ELEC	CONEC.MOTOR BOMBA ACONDICIONADORA	0	1	2	30DEC96	300EC96		Σ	
E02-30	ELEC	MANT, MACNETICO AL MOTOR D.C.	0	1	8	31DEC96	31DEC96		Σ	x
E02-32	ELEC	MANT. PANEL DE INTERRUPTORES EN M.O.T.	0	1	8	02JAN97	02JAN97			2
CONTRO										
E04-02	1	MANT, INTERRUPTORES LIMITE VALVULAS TURB.	0	1	8	03JAN97	03JAN97			XX.
E04-06	1	LIMPIEZA AREA PEDESTAL DELANTERO	0	1	4	07JAN97	07JAN97			X
E04-08	1	CALIBRACION Y MANTENIMIENTO INTERRUPTORES	0	1	4	07JAN97	07JAN97			ZZ .
E04-10	ELEC	INSP. OPERACION BLOW DOWN VALV.	0	1	2	08JAN97	08JAN97			X
04-12	ELEC	CALIBRACION VALVULAS DE TURBINA	0	1	10	08JAN97	09JAN97			M .
54-14	ELEC	DESCONECTAR MOTOR GIRO LENTO	0	1	2	09JAN97	09JAN97			Z .
E04-18	ELEC	CONECTAR MOTOR GIRO LENTO	0	1	2	09JAN97	09JAN97			X
E04-20	ELEC	DESCONECTAR PMG	0		2	10JAN97	10JAN97			X
E04-22	ELEC	LIMPIAR PMG	0 1		2	10JAN97	10JAN97			X
E04-24	ELEC	CONECTAR PMG	0 1		2	10JAN97	10JAN97			X
104-02	PLIN	MANT. CALIB. DETECTORES DE VIBRACIONES	0 1		16	10DEC96	11DEC96	47		
104-04	PLIN	MANT, CALIB. SENSOR EXPANSION DIFERENCIAL	0 1	T	8	12DEC96	12DEC96	ZZ.		
104-06	PLIN	MANT. CALIB. SENSOR EXPANSION CARCASA	0 1	\top	8	13DEC96	13DEC96	Z		
104-08	PLIN	MANT. CALIB. SENSOR POSICION DE VALVULAS	0 1	\neg	8	16DEC96	16DEC96	l la	7	
104-10	PLIN	MANTENIMIENTO TERMOPARES TURBINA	0 1	\top	8 1	17DEC96	17DEC96		₹	
104-12	PLIN	MANTENIMIENTO GRAFICO VIBRACIONES	0 1	\top	8	18DEC96	18DEC96		Z	
104-14	PLIN	MANTENIMIENTO PANEL IRD	0 1	1	8 1	19DEC96	19DEC96		×	
104-16	PLIN	MANT. CALIB. INSTRUMENTACION FRONT STAND	0 1	\top	16 2	20DEC96	23DEC96		257	
104-20	PLIN	INSP.SISTEMA SELLO TURBINA	0 1	\top	16 2	24DEC96	26DEC96		A	
104-22	PLIN	CALIBRAR TX SISTEMA SELLO TURBINA	0 1	\top	8 2	27DEC96	27DEC96		X	
75.55	PLIN	INSP-CALIB.SOLENOIDE ALARMA"BLOW DOWN VALVE"	0 1	\top	8 3	ODEC96	300EC96	_	Z	1
	SERVO	O-HIDRAULICO			-380	esso esterestic				
E06-26	ELEC	LAVADO CON ACEITE SISTEMA SERVO-HIDRAULICO	0 1	T	8 1	ODEC96	10DEC96	Ø		**
ALENTAL	OORES	DE AGUA							. 1	
109-02	PLIN	MANTENIMIENTO Y PRUEBA ALARMAS NIVEL	0 1			ODEC96		4	1	
1		MANTINSTALACION TERMOPARES	0 1				31DEC96	1		
		INST. HYDROSTEP CALENTADORES	0 1				16JAN97		f	320007
109-08	PUN	PRUEBAS SOLEN.VALV.NO RETORNO	0 1		8 1	7JAN97	17JAN97			ZZ :
ZCITATR	ZEST	ATICO:		T	و ا و	ODEC09	1105006	2		į.
F08-02	ELEC	MANT, INTERRUPT DE CAMPO PRINCIPAL	0 1		0 1	ODEC96	LIUEUSO	7"	1	

Activity	AR	A Activity description	%	NAMES OF TAXABLE PARTY.	L RE	Committee Commit	Early finish	DEC	JAN E FE
E08-04	FIF	CINSP. MANT. MOTORES DE ENFRIAMIENTO	(1	-	2 11DEC96	00.75 0/1/1/1/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/	2 2 15.23	308 .13.20.27.3 .10
E08-06	1	CIMANTENIMIENTA A CONTACTORES	-	1	+	8 11DEC96		T Z	
		CINSP, Y MANT, GAVETAS DE POTENCIA		1	+-	4 12DEC96			1 42
E08-10		CIVERIFICAR CONEXIONES PRINCIPALES		11		4113DEC96		N N	
E08-12		CINSP. DE MODULOS	1	1		4 13DEC96		AST	
		CINSP. DE RELES AUXILIARES	1	1		4 16DEC96		A A	
		CINSP. FUSIBLE Y CONEXIONES DE CONTROL		1		2 16DEC96		X	
		CILIMPIEZA DEL GABINETE	-	1		2 17DEC96		_ AA Z	
		1		1	1				
E08-20		CIMANT, INTERRUPTORES DE RESGUARDO DEL CAMPO				4 17DEC96		T Z	
E10-02		C DESCONECTAR GENERADOR		1		4 100EC96		¥	
E10-04		C CONECTAR GENERADOR		1		8 27DEC96			
		CIDESC. NEUTRAL DEL GENERADOR.		1	1	4 10DEC96		X	
E10-08		CONEC. NEUTRAL DEL GENERADOR	1	1		4 26DEC96		37	:
E10-10		DESC. PORTA ESCOBILLAS		1		4 17DEC96		A A	
E10-12		CONEC. PORTA ESCOBILLAS	0	1		4 26DEC96		X	
E10-14	ELE	INSP. MANT. Y PRUEBAS P.P. T	0	1	1	18DEC96	190EC96	M	
E10-16	ELE	INSP. MANT. Y PRUEBAS P.P.	0	1	8	19DEC96	20DEC96	87	
E10-18	ELE	MANT. Y PRUEBA TRANSFORMADOR DE TIERRA	0	1	1	20DEC96	20DEC96	T T	
E10-24	ELEC	MANT. ANILLOS COLECTORES Y PORTA ESCOBILLAS	0	1	8	20DEC96	23DEC96	AST .	
110-04	PLIN	MANTENIMIENTO PANEL HIDROGENO(LIMPIEZA-INSP.)	0	1	16	100EC96	11DEC96	37	
110-08	PLIN	VERIFICAR DISPOSITIVOS ALARMAS PANEL	0	1	16	12DEC96	13DEC96	AT	
110-12	PLIN	CALIBRACION PUREZA HYDROGENO	0	1	8	16DEC96	16DEC96	M	
0-02	PLM	REM. JUNTA VALV., FILTROS-INST. SIST. CARGA VIVA	0	1	16	16DEC96	17DEC96	A	
w10-04	PLM	CAMBIO FILTROS	0	1	2	18DEC96	18DEC96	22	
M10-06	PLM	COTEJO "BEARING DRAIN EXHAUSTER"	0	1	16	18DEC96	20DEC96	S	
M10-08	PLME	LIMPIEZA ENFRIADORES H2 EN SITIO	0	1	24	20DEC96	26DEC96	2007	
		S DE AGUA		** ::					
		CALENTADORES DE AGUA NUEVOS	0			10DEC96		×	
N11-02		MANTENIMIENTO CONTROLES DE NIVEL	0			10DEC96	12DEC96	497	
N11-04		MANTENIMIENTO VALVULAS REGULADORAS DE NIVEL	0			I Carrie III I I I I I I I I I I I I I I I I I	16DEC96	AN	
N11-08	The same of the sa	MANTENIMIENTO MECANISMOS DE DISPARO ALTO	0			17DEC96	19DEC96	89	
N11-10		MANTENIMIENTO INDICADORES DE NIVEL	0			19DEC96	23DEC96	AN	
N11-12	PLN	MANTENIMIENTO GENERAL RESTANTE	- 0	1	80	24DEC96	09JAN97	A	
CONDEN			014		0	1005006	1005006	17	
		MANT, SIST, HIDRAULICO CAMBIO COMP.	0 1			10DEC96		2	
		MANT, SISTEMA PROTECCION CATODICA				11DEC96		Z	
		VERIFICAR OPERACIONES DEL VACUUM BKR. INSTCALIB.PRUEBA CTR NIVEL POZO CALIENTE	0 1				11DEC96	87	
112-02			0 1	_			12DEC96	27	
		MANTCALIB.TX. FLUJO CONDENSADO					13DEC96		
		MANT, PRUEBA INST.ASOCIADA RECIRAUTO-ARRA	0 1	_			16DEC96	Z Z	
		CALIBRACION-MANT.METROS CONDUCTIVIDAD	0 1	_			13DEC96		
		INSPECCION CELDAS CONDUCTIVIDAD EN	0 1		16	16DEC96	17DEC96	B	
-	DE VAC	MANT, INSP. VALVULA ROMPER VACIO	0 1	T	Я	17DEC96	17DEC96	Z	
_		INSPCALB. INTERRUPTORES VACIO TURBINA	01				18DEC96	X	
		CALIBINSP. SOLENOIDES INTERRUPTORES BOMBA	01	_			19DEC96	I	
		COTEJO SELLOS MECANICOS E INFILTRACIONES #1	01	+			200EC96	Z	
M14-26	PLME	COTESO SELLOS MECANICOS E INFILITACIONES PI	1.						

Activity	ARE	A Activity	1%	CAL	000000000	*************	Early	- near	TAN 7 EC
ID		description		10			finish		JAN FE 30.8 :13.20.27.3 :10
11		E LIMPIEZA DE CEDAZOS AGUA SELLO #1		1		23DEC96	23DEC96		
		E COTEJO ROTAMETROS BOMBA VACIO #1		1		23DEC96	23DEC96	X	
114-32	PLM	E LIMPIEZA DE ENFRIADORES BOMBA VACIO #1	0	1	16	24DEC96	26DEC96	A	
M14-34	PLM	E COTEJO DE ALINEACION BOMBA VACIO #1	0	1	4	27DEC96	27DEC96	X X	
M14-36	IPLM	E COTEJO BOMBA DE SELLO BOMBA VACIO #1	0	1	8	27DEC96	30DEC96	1 4	al .
M14-64	PLM	E COTEJO SELLOS MECANICOS E INFILTRACIONES BB	0	1	8	30DEC96	31DEC96		7
M14-66	IPLM	ELIMPIEZA DE CEDAZOS AGUA SELLO #2	0	1	4	31DEC96	31DEC96		¥
M14-68	:PLM	E COTEJO ROTAMETROS BOMBA VACIO #2	0	1	4	02JAN97	02JAN97		Z .
M14-70	PLM	ELIMPIEZA DE ENFRIADORES BOMBA VACIO #2	0	1	16	02JAN97	07JAN97		
M14-72	PLM	EICOTEJO ALINEACION BOMBA VACIO #2	0	1	4	07JAN97	07JAN97		N
M14-74	IPLM	COTEJO BOMBA SELLO, BOMBA VACIO #2	0	1	8	08JAN97	08JAN97		Ø
N14-00	IPLN	BOMBA DE VACIO	0	1	0	09JAN97	08JAN97		図
N14-04	PLN	MANTENIMIENTO PISTON "AIR MOTIVE VALVE"	0	1	16	09JAN97	10JAN97		Ø
	***************************************	MANTENIMIENTO FLUJOMETROS	0	1	8	13JAN97	13JAN97		巫
	1	DNDESADO.		XXX XXX					1
		INSP. BOMBA SELLOS & JUNTAS BOMBA CONDESADO	0	1	16	09JAN97	10JAN97		A
M16-22	PLM	INSP. BOMBA, SELLOS Y JUNTAS-BOMBA CONDESADO	0	1	16	13JAN97	14JAN97		Ø
ATEMPE	RADO	R DEL SOBRECALENTADOR							1
118-02	PLIN	INSP-MANT-PRUEBA	0	1	8	200EC96	20DEC96	M	
118-04	1	INSP-CALIB.PRUEBA VP REG.SPRAY'S.H."	0	1	8	23DEC96	23DEC96	×	
118-06	PLIN	MANT, CALIB. PRUEBA TX.FLUJO SPRAY"S.H."	0	1	8	24DEC96	24DEC96	X	
118-10	PLIN	INSP.PRUEBA SOLENOIDE ATEMP.SRP S.H.	0	1	8	26DEC96	26DEC96	M	
TEMA 9-02	CONT	ROURECALENTADO	l al	1	8	27DEC96	27DEC96	NZ	1
119-06	1	INSPCALIB.PRUEBA IP REGULADORA	0			30DEC96	30DEC96	2	1
119-08		ALAMBRADO DE INTERRUPTOR Y SOLENOIDE	0			31DEC96	02JAN97		V
	1			.					
		S DE PRESIÓN MEDICADAS H2O	0	1	80	10DEC96	23DEC96	35537	
		DE.VAPOR							
		REMINST. JUNTA SIST. CARGA VIVA	0	1	30	31DEC96	08JAN97	. 4	987
M22-04	PLME	MANT. VALVULAS AISLADORAS Y CIRCUNVALACION	0	1	16	08JAN97	10JAN97		AT .
M22-06	PLME	ELIMINACION FLANJES DEL SEPARADOR HUMEDAD	0	1	24	10JAN97	15JAN97		AN
M22-08	PLME	CORRECION ROTURAS EN LINEAS	0 1	1	16	15JAN97	17JAN97		Ø
M22-10	PLME	INST.NUEVAS TRAMPAS DE VAPOR	0 1		80	17JAN97	31JAN97		Service 1
SISTEMA	PROP	ANO							:
		MANT-CALIB.TX PRESION PROPANO E INDICADOR	0 1		8 1	11DEC96		Ø	1
	220,2323	MANT-CALIB.PERMISIVO PRESION PANEL IGNITER	0 1				12DEC96	M	1
		CALIB.PRUEBA ALARMA PRESION PROPANO	0 1			I3DEC96		XZ	1
125-08	PLIN	MANTENIMIENTO SOLENOIDES Y RACK DE PROPANO	0 1		56 1	6DEC96	24DEC96	A 100	i
VALVULA	BOILE	R LEAD*	0/4		<u></u>	105000	1205006	200	
		REM.VALV.BIGOTE-INST.NUEVA. MODIFICAR	0 1			1DEC96		ANY	
		MANTENIMIENTO "BOILER LEAD"	0 1		0 1	3DEC96	16DEC96	- W	
ESTACION	REDI	ICTORA::::::::::::::::::::::::::::::::::::	0 1	T.	32 1	1DEC96	16DEC96		
		MANTENIMIENTO REGULADORA 1970/210 Y EQUIPO	0 1				13JAN97		25
- 1	- 1	MANTENIMIENTO REGULADORA 560/220 Y EQUIPO	01				21JAN97		A
		MANTENIMIENTO REGULADORA ATEMPERACON	0 1	000			27JAN97		A 1
		MAN I ENIMIENTO REGULACIONA ATEMP EL GOGOTI	-1.						

Activity	ARE	A Activity .	%	CAL	REM Early	Early		4
ID		description		ID	DUR start	finish	DEC 2 9 16:23	JAN FE 308 1320273 10
134-06	PLIN	PRUEBAS ALARMAS DE NIVEL	0	1	8119DEC96	20DEC96	A	
134-08	PLIN	INST.CALIB.I/P CONTROL NIVEL REMOTO	0	1	8 20DEC96	23DEC96	A\$7	:
34-10	PLIN	CALIB. AUTO START BOMBAS DESAREADOR	0	1	8123DEC96	24DEC96	M	
M42-02	PLM	E BBA. DESAREADOR #1-COTEJAR SELLOS MECANICO	0	1	8 24DEC96	26DEC96	A S	:
M42-24	:PLM	EI COTEJAR ALINEACION, BOMBA #1	0	1	8 26DEC96	27DEC96	a a	
M42-30	PLM	EIBBA. DESAREADOR #2-COTEJAR SELLOS MECANICOS	0	1	8 27DEC96	30DEC96		ष
M42-52	PLM	EI COTEJAR ALINEACION, BOMBA #2	0	1	8130DEC96	31DEC96		₩.
N34-02	PLN	MANT. VALVULA HIGH & LOW RANGE- EQUIPO	0	1	42/31DEC96	09JAN97		
N34-06	PLN	MANTENIMIENTO Y CONTROL VALVULA DE	0	1	28 09JAN97	15JAN97		2007
ABANIC	OS.FOR	RZADO E INDUCIDO:						
		EINST. CHANELES Y SOPORTES LINEAS AIRE	0	1	16 31DEC96	03JAN97		37
M36-20	PLM	EABANICO "SCANNERS" INSPECCION EQUIPO	0	1	8 03JAN97	07JAN97		AN7
		AJE CALDERA						:
	1	FIREM. ABANICO, PEDESTALES Y TUBERIA. SELLAJE	0	1	32 07 JAN 97	13JAN97		
		AGUA ALIMENTAR	i ol	4	8 100EC96	100EC96	N N	
11		REPARACION AISLADORA "AHEAD" -CONTRATO	0		16 11DEC96	12DEC96	T	1
1	1	MANTENIMIENTO VALV. ASOCIADAS REGULADORAS		1 :	10/1102030	1205030		
SISTEM/		GUSTIBLE CALIB_PRUEBA TX FLUJO PETROLEO	ol	1	8 11DEC96	11DEC96	Z	
123-04		INSP-CALIB-PRUEBA I/P REG.PRINC.FLUJO PETROLEO	0		8 12DEC96	12DEC96	×	
123-06		MANTPRUEBA INSTR.ASOCIADA VALV.DISPARO RECIR	.0	1	8 13DEC96	13DEC96	X	
123-08		PRUEBA DISPARO BAJA TEMP.PETROLEO	0	1	4 16DEC96	16DEC96	Ø	
73-10		CALIB-PRUEBA DISPARO BAJA PRESION PETROLEO	0	1	4 16DEC96	16DEC96	×	1
3-12		CALIB-MANT-PRUEBA ALARMA BAJA PRESION	0	1	4 17DEC96	17DEC96	X	
1 123-14	i	MANT-INSP-PRUEBA TERMOPAR TEMP.PETROLEO	0	1	8 17DEC96	18DEC96	₩.	
123-16	4	INSP-MANT.PRUEBA TERMOPAR VAPOR ATOMIZAR	0	1	8 18DEC96	19DEC96	A	
123-18		CALIB-MANT.I/P REG.VAPOR ATOMIZAR	0	1	8 19DEC96	20DEC96	Ø	
123-20		CALIB-MANT.DISP.BAJA PRESION VAP.ATOMIZAR	0	1	4 20DEC96	20DEC96	Z	
123-22	and the second	CALIB-MANT.PRUEBA ALARMA BAJA PRESION ATOM	0	1	4 23DEC96	23DEC96	Ø	
123-24		CALIBRACION VISCOSIMETRO	0		24 23DEC96	27DEC96	. 2007	
M44-20	1	LIMPIEZA CEDAZOS	0 1	1	8 10JAN97	13JAN97		AV
M44-22	1	INSPECCION SELLOS Y BOMBAS	0 1	1	16 13JAN97	15JAN97		AV
N44-02	PLN	MANT. VALVULA PRINCIPAL CONTROL COMBUSTIBLE	0 1	1	16 10JAN97	13JAN97		AST
N44-06	PLN	MANT.VALVULA PRINCIPAL DISPARO	0 1	1	16 14JAN97	15JAN97		Ø
N44-08	PLN	MANT. VALVULA RECIRCULACION"BOILER HEADER"	0 1		16 16JAN97	17JAN97		Ø
N44-10	PLN	MANT. VALVULA RECIRCULACION "BURNER HEADER"	0 1		16 20JAN97	21JAN97		Ø
N44-12	PLN	MANT. VALVULA RECIRCULACION "BOMBAS PETROLEO"	0 1	1	16 22JAN97	23JAN97		Ø
SISTEMA	PROP	MO:	wo'x					
N44-24	PLN	MANT. VALVULA REGULADORA- EQUIPO ASOCIADO	0 1		32 13DEC96	18DEC96	2507	
TORRE D	EENFF	RIAMIENTO:: DESCONECTAR MOTOR BOMBA ENFRIAMIENTO 9-1	0 1	*	4 10DEC96	100EC96	NZ	***
		MANTENIMIENTO MOTOR BOMBA ENFRIAMIENTO 9-1	01	_	Control of the Contro	10DEC96	Ţ	
		CONECTAR MOTOR BOMBA ENFRIAMIENTO 9-1	01		4 11DEC96			
		DESCONECTAR MOTOR BOMBA ENFRIAMIENTO 9-2	0 1	+		11DEC96		
		MANTENIMIENTO MOTOR BOMBA ENFRIAMIENTO 9-2	01	+	4 12DEC96		X	
		CONECTAR MOTOR BOMBA ENFRIAMIENTO 9-2	01		4 120EC96		22	
		MANTENIMIENTO ALARMAS DE NIVEL Y PRESION	01	_	8 100EC96		*	
		MANTENIMIENTO DISPOSITIVO AUTO ARRANQUE	01			11DEC96	a l	
146-04	PLIM	MARITHMENT OF THE CONTRACTOR O						

Activity ID	ARE	A Activity description	1%	22.00	ALR ID D	Contract to	A CONTRACTOR OF THE PARTY OF TH	Early finish		DEC	JAN) F
9556066555666666	PLN	E LIMPIEZA BANDEJAS SUPERIORES TORRE	(0 1		8	12DEC96	12DEC96	d	N MANAGE	208 132	1. G.) 2.0
M46-34	IPLN	EINSPMANT. ABANICO Y TRANSMISION TORRE	1	0 1		12	13DEC96	16DEC96	1	4	+	
M46-36	PLN	ECOTEJO TUBERIA EQUIPO AUXILIARES		1		80	16DEC96	31DEC96	1			**
	-	NERIAMIENTO										
M46-42	IPLN	EREMOCION DE MOTORES		1		8	31DEC96	02JAN97	1		47	
M46-44	PLM	EREMOCION DE BOMBAS		1		12	02JAN97	03JAN97			N	
M46-46	IPLM	EINSP. BOMBAS Y EJES SUPERIORES	C	1		12	07JAN97	7enal80			A	
,		EINSTALACION DE BOMBAS	1	1		12	08JAN97	09JAN97			2	
		EINSTALACION DE MOTORES		1		8	10JAN97	10JAN97			ZZ	
M46-52	PLM	EINSTALACION SELLOS MECANICOS PARTIDOS	0	1		8	13JAN97	13JAN97			X	
M46-54	PLM	EINSP MANT. VALVULA AISLADORA, CIRCUNVALACION	0	1		8	14JAN97	14JAN97			A	
		TORIZADAS:::::::::::::::::::::::::::::::::::	7 0	14			1005.006	14005000		7		
				1	-	-	10DEC96	10DEC96		Z Z		
E48-08		CALIBRAR DESCARGA BEWPP 9-1		1	_		10DEC96 10DEC96	10DEC96				
E48-12 E48-16		MANTENIMIENTO DESCARGA BFWPP 9-2 CALIBRAR DESCARGA BFWPP 9-2		1	-			11DEC96		I I		
E48-20		MANTENIMIENTO DESCARGA CWPP 9-1		1								
	1			1	-		12DEC96	11DEC96		Z Z		
E48-24	1	CALIBRAR DESCARGA CWPP 9-1 MANTENIMIENTO CONTROL BOILER LEAD		1	-			12DEC96		EZ		
E48-36	1			1		-		12DEC96	1	X		
E48-40		CALIBRACION BOILER LEAD MANTENIMIENTO VALV BY-PASS/DEAREATOR	- 5	1		1	12DEC96 13DEC96	13DEC96		X X		
48-44		CALIBRAR VALV BY-PASS DESAEREADOR	0			1	ISDEC96	13DEC96		X		
48-48	1	MANTENIMIENTO VALVULA SECCIONAL CWP 9-1	0					16DEC96		AST		
48-52 48-56		CALIBRAR VALVULA SECCIONAL CWP 9-1	0		_			16DEC96		A A		į
		MANT.VALV ENTRADA CONDENSADOR	0					17DEC96		AN AN		
		CALIB.VALV ENTRADA CONDENSADOR	a					17DEC96		X		1
		MANT.VALV AISLADORA BFWP REG.	0			1		18DEC96		X		
48-80		CALIB.VALV AISLADORA BFWP REG.	0	_		1		18DEC96	-	X		
1		MANT.VALV-AISLADORA CALENT.5	0					19DEC96		N		
		CALB. VALV-AISLADORA CALENT.5	0	_		1		20DEC96		· Ø		
	1	MANT.VALV-AISLADORA CALENT.6	0	_		1		23DEC96		S		
		CALB.VALV-AISLADORA CALENT.6	0	_				23DEC96	.	X		
		OR DE POTENCIA			l				+			<u> </u>
		INSP.ABANICO ENFRIAM-INDIC.NIVEL	0	1	T 4	110	00EC96	100EC96	H			
50-04	ELEC	MANT.MAGNETICO PRINCIPAL/EMERGENCIA	0 1	1	14	110	ODEC96	10DEC96	×	.		
50-06	ELEC	MANT.MAGNETICO ABANICOS/BOMBAS	0 1	1	2	11	IDEC96	11DEC96	2	.		
50-08	ELEC	INSP. BLOQUES DE TERMINALES Y CONEXIONES	0 1	1	1	11	DEC96	110EC96	2			ļ
50-10	ELEC	ALARMAS	0 1	Γ	4	11	DEC96	12DEC96	A			1
ABAJOS	GEN	RALES		×			***********			.		
		INSP. PANELES ALARMA CONSOLA Y CUARTO ELEC.	0 1	_	-	_		12DEC96	1			
		INSP.INDICACIONES LUMINICAS	0 1		-	_		17DEC96	A	167		!
		CONEXION EQUIPOS A CONTRATISTA Y OTRAS	0 1					2JAN97				
Same of the Same		DESCON.EQUIPOS A CONTRATISTAS Y OTRAS SECC.	0 1		-			7JAN97				
	and the same	MANTENIMIENTO A CONSOLA DE CONTROLES	0 1					1JAN97			AN7	
		ALUMBRADO DE CALDERA	0 1					ODEC96		1		
	1	NST.ELECTRICA SOLENOIDE ATEMPERADORES	0 1		-			30EC96	ZZ.			
		CALIBRACION- MANTENIMIENTO SISTEMA P.H.	01					2DEC96				•
0-04 IP	LIN	CALIBRACION-MANTENIMIENTO METRO OXIGENO	91		1 0	12	DEC30 11	202030	1	1		:

Activity	y ARE		%		A	A Early		L	26	JAN L	e.
ID		description		10000	DUI	· •	finish	2.0	16.23	30.8 13.20.27	3 .10
		MEREP. ROTURAS EN LINEAS DE CENTRAL		1		10DEC96				1	
		IEMANT. VALV. CUARTO BOMBA	1	1		2 17DEC96			3 V		A
150-02	PLN	TRABAJOS GENERALES EN PLANTA	0	1		11DEC96		3			
N52-04	IPLN	TRABAJOS SOLICITADOS SECC. ELECTRONICA	0	1	208	11DEC96	20JAN97	3	STALE.	ACCURATE OF	
		LANTERO	T .	la la							
T00-00		TIEMPO ENFRIAMIENTO DE TURBINA		3		10DEC96		4			
1		BIREMOVER CUBIERTA PEDESTAL DELANTERO		4		13DEC96		X			
The second second		REMOVER INTRUMENTACION ELECTRONICA	0			16DEC96] A			
T10-05		REMOVER INTRUMENTACION NEUMATICA		2		16DEC96			Z		
T10-20		BIREM. MECANISMO DISPARO BAJA PRESION ACEITE	0	4		13DEC96	14DEC96	N N			
T11-00	APT	B INSPECCION Y REPARACION PEDESTAL DELANTERO	1	4	8	14DEC96	16DEC96	Δ	7		
T11-06	APT	BINSPECCIONAR EL EJE DE EXTENCION	0	4	8	16DEC96	16DEC96	2	Z		
T11-08	1	B ABRIR INSPEC. Y REPARAR MOTOR MEC.GIRO LENTO		4		17DEC96	18DEC96		7	:	
T11-16	APT	B INSP. SUPERFICIE DESLIZAMIENTO PEDESTAL	0	4	16	180EC96	20DEC96		Ø		
T11-22	APT	B INSP. MECANISMO DISPARO BAJA PRESION ACEITE	0	4	8	20DEC96	20DEC96		X		
T11-24	APT	B LIMPIAR LINEAS ACEITE E INT.PEDESTAL DELANTERO	0	4	8	21DEC96	21DEC96		M	1	
T11-26	APT	B PRUEBAS NO DEST. CAJA GOB. DE SOBREVELOCIDAD	0	4	8	23DEC96	23DEC96		X	1	
T12-02	APT	B PRUEBA DE EMPUJE	0	4	4	23DEC96	24DEC96		A		
T12-14	APT	B INSTALAR MECANISMO DISPARO BAJA PRESION	0	4	8	24DEC96	24DEC96		M		
T12-16	APT	B INSPECCIONAR SISTEMA EHY AJUSTAR VALVULAS	0	4	8	26DEC96	26DEC96		X	. !	
T12-18	APT	B REMOVER "THRUST BEARING"	0	4	8	26DEC96	27DEC96		N		
T12-20	APT	B REMOVER BEARING # 1	0	4	4	27DEC96	27DEC96		V	1	
12-22	APT	B INSPECCIONAR BEARING # 1 Y THRUST BEARING	0	4	8	09JAN97	10JAN97			₩.	
. 12-24	APT	BREPARAR BEARING # 1, SI NECESARIO	0	4	8	10JAN97	11JAN97			₽.	
T12-26	APT	B INSTALAR BEARING #1	0	4	4	11JAN97	11JAN97			Z	
T12-28	APTI	BINSTALAR THRUST BEARING	0	4	4	13JAN97	13JAN97			M	
T12-30	PLIN	INSTALAR - CALIBRAR INSTRUMENTACION	0	2	4	13JAN97	13JAN97			XX	
T12-32	APTI	INSTALAR CUBIERTA PEDESTAL DELANTERO	0	4	8	13JAN97	14JAN97			M .	
REPARA	CION	BRG: #23,445		30000	11/00/00						
T40-02	APT	REMOVER ENVOLVENTE COJINETE # 2,3,4 & 5	0	4	32	13DEC96	17DEC96	A.	7		
T40-04		REM. AISLACION COJINETE # 2,3,4 & 5 (SI TIENE)	0	4	32	17DEC96	20DEC96		V		
T40-06	APTE	REMOVER CUBIERTA- COJINETE # 2,3,4 & 5	0	4	16	20DEC96	23DEC96				
T40-08	APTE	REMOVER COJINETE # 2,3,4 & 5	0	4	32	23DEC96	27DEC96			l	
T40-10		LIMPIAR, INSP. Y MEDIR COJINETE # 2,3,4 & 5	0	4	32	27DEC96	31DEC96			7	
T40-12	The second second	REPARAR COJINETE # 2,3,4 & 5 (SI ES NECESARIO)	0	4	32	02JAN97	07JAN97				
T40-14	100000000000000000000000000000000000000	REMOVER SELLOS ACEITE-COJINETE # 2,3,4 & 5	0	4	16	07JAN97	08JAN97			AT .	
T40-16	III WAS COMES TO	LIMPINSPMEDIR SELLO ACEITE, COJINETE 2,3,4-5	0 4	•	32	09JAN97	13JAN97			AN7	
T40-18		REPARAR SELLOS ACEITE- COJINETE # 2,3,4 & 5	0 4	•		13JAN97	14JAN97			NZ .	
T40-20	1	INST. 1/2 INFERIOR COJINETE # 2,3,4 & 5	0 4	1			14JAN97			M	
T40-22	1	REALIZAR PRUEBAS DE ALINEACION	0 4	1		15JAN97	15JAN97			2	
T40-24	1	INSTALAR 1/2 SUPERIOR COJINETE # 2,3,4 & 5	0 4		16		17JAN97			87	
T40-26		INSTALAR SELLOS ACEITE COJINETE # 2,3,4 & 5	0 4		16		20JAN97			457	
	1	INSTALAR CUBIERTA COJINETE # 2,3,4 & 5	0 4		16		21JAN97	-		Ø	
		INSTALAR AISLACION COJINETE # 2,3,4 & 5	0 4				22JAN97			A I	
T40-32	APTB	INSTALAR ENVOLVENTES COJINETE # 2,3,4 & 5	0 4		16	22JAN97	24JAN97			A :	
140~34											- 1
VALUE A	VAPO	R PRINCIPAL: REMOVER AISLACION TAPA-VALVULA VAPOR	0 4		- AT	13DEC96	130ECC	M		i	

Activity	ARE	Activity	1 %	CA	RE	& Early	Early		1.75
10		description		10	DU	R start	finish	DEC.	JAN FI 1304 13,20,273 10
T61-04	APT	BIREM. TUERCAS Y TAPA-VALVULA VAPOR PRINCIPAL		0 4	11	6113DEC96	16DEC96	A	1
T61-06	APT	B REM. E INSP. CEDAZOS-VALVULA VAPOR PRINCIPAL	1	0 4		2 16DEC96	16DEC96	X	1
61-08	APT	BIREMOVER ACOPLE-VALVULA VAPOR PRINCIPAL	1	0 4	Τ.	4 16DEC96	17DEC96	B	
T61-10	APT	BIREM. PULL DOWN RING- VALVULA VAPOR PRINCIPAL	1	0 4	1	4 17DEC96	17DEC96	T X	
T61-12	APT	B REM. VALVULA DE VAPOR PRINCIPAL	1	0 4	1	17DEC96	17DEC96	77	
T61-14	APT	BIDESARMAR VALVULA VAPOR PRINCIPAL	1	4	1	18DEC96	18DEC96	X	
T61-16	APT	BILIMPIAR E INSP. PIEZAS VALVULA VAPOR PRINCIPAL	1) 4	1	18DEC96	19DEC96	Ø	
T61-18	APT	BIMEDIR EJE Y CASQUILLOS-VALVULA VAPOR PRINCIPAL	1	14	8	19DEC96	20DEC96	Ø	
T61-20	APT	BI ARMAR VALVULA VAPOR PRINCIPAL	1 0	4	8	20DEC96	21DEC96	M	
T61-22	IAPT	BIMEDIR RECORRIDO BY PASS VALVES-VALVULA	C	4	4	21DEC96	21DEC96	Z	
T61-24	APT	B REALIZAR PRUEBA RAJADURA-VALVULA VAPOR	0	14	1 4	21DEC96	23DEC96	B	
T61-26	APT	BIREALIZAR PRUEBA CONTACTO-VALVULA VAPOR	0	4	4	23DEC96	23DEC96	l xx	
T61-28		BINSTALAR VALVULA DE VAPOR PRINCIPAL	C	4	4	23DEC96	23DEC96	<u> </u>	
T61-30	1	BI CONECTAR PULL DOWN RING-VALVULA VAPOR	0	4	4	24DEC96	24DEC96	T T	+
T61-32		BIACOPLAR VALVULA PISTON-VALVULA VAPOR	0	4	4	24DEC96	24DEC96	X	
T61-34	1	BI INSTALAR CEDAZO VALVULA VAPOR PRINCIPAL		4		24DEC96		- X	
T61-36		BINST APRETAR TAPA-VALVULA VAPOR PRINCIPAL		4		26DEC96	27DEC96	AS	,
T61-38	1	B ESTIRAR TORNILLO TAPA-VALVULA VAPOR PRINCIPAL	_	4		27DEC96	28DEC96	- 3	1
T61-40		BINSTALAR AISLACION-VALVULA VAPOR PRINCIPAL		4		28DEC96	30DEC96		
T61-42	1	EVERIFICAR CALIBRACION VALVULA VAPOR PRINCIPAL	1000	4		300EC96	30DEC96		
							SODEC36		
T62-02		OR RECALENTADO	0	4	4	13DEC96	13DEC96	X	
72-03	1	REM.TUERCA TAPA-VALVULA DER. VAPOR	0	4	8	13DEC96	14DEC96	M	
52-04		SOLTAR BRAZO INTERCEPT(VALV. DER. VAPOR	0	4	4	14DEC96	14DEC96	M	
T62-05	1	REM. INTERCEPT Y CEDAZO-VALV DER. VAPOR	0	4	4	14DEC96	16DEC96	<i>S</i> 7	
T62-06		DESARMAR INTERCEPT-VALV. DER. VAPOR	0	4	24	160EC96	18DEC96	∆S7	
T62-07	1	MEDIR EJE Y CASQUILLO-VALV. DER. VAPOR	0	4	16	18DEC96	20DEC96	1	
T62-08		PRUEBAS RAJADURAS- VALV. DER. VAPOR	0	4	8	20DEC96	20DEC96	M	
T62-09	1000000	PRUEBA CONTACTO-VALV. DER. VAPOR RECALENTADO	0			21DEC96	21DEC96	M	
T62-10		LIMP. PIEZAS INTERCEPT-VALVULA DER. VAPOR	0	4		18DEC96	20DEC96	· 89	
		ARMAR INTERCEPT-VALVULA DER. VAPOR	0			21DEC96	23DEC96	87	
	1	DESACOPLAR VALVULA DERECHA VAPOR	0			16DEC96	16DEC96	2	
	1	REM. PULL DOWN RING-VALV. DERECHA VAPOR	0	4		16DEC96		- IX	
1		REMOVER VALVULA DERECHA VAPOR RECALENTADO	0				17DEC96	Z Z	
4		DESARMAR VALVULA DERECHA VAPOR RECALENTADO	0	4		17DEC96		Z	
		LIMPIAR-ACOND. PIEZAS VALVULA DER. VAPOR	0			180EC96	19DEC96	Z	
		MEDIR EJE Y CASQUILLO-VALVULA DER. VAPOR	0			18DEC96		- -	
		REALIZAR PRUEBA RAJADURA-VALV. DER.	0				18DEC96	×	
		REALIZAR PRUEBA CONTACTO-VALV. DER. VAPOR	0			190EC96		×	
	perm rem	ARMAR VALVULA DERECHA VAPOR RECALENTADO	0				20DEC96	<i>E</i> 7	
		INSTALAR VALVULA DERECHA VAPOR RECALENTADO	0				20DEC96	X	
100000000000000000000000000000000000000		INST, PULL DOWN RING-VALVULA DER, VAPOR	0 4				21DEC96	- I	
	STATE OF STATE	INST. ACOPLE VALVULA-PISTON(VALV. DER. VAPOR	0.4				21DEC96	Z	
		INST. CEDAZO VALVULA DERECHA VAPOR	0 4				23DEC96	E E	
		INST, CEDAZO VALVULA DERECHA VAPOR INST, VALVULA INTERCET-VALV. DER. VAPOR	0 4			a mars detta 200.000	23DEC96	I	
		APRETAR TAPA VALVULA DER. VAPOR RECALENTADO	04				24DEC96	. 2	-
		INSTALAR LINEAS VAPOR-VALV DER, VAPOR RECALENT	04				26DEC98	S	
T62-43	APIB	INDIVENT CHEVO AND MANAGED FIFT AND ON MEGAFETAL	1						

Activit	y AR	EA Activity description	%	A 3000	LRE	(1) TOXIO (1) (1) (1) (1)	Early linish	DEC	JAN T F
T62-44	AP	TBIINST, AISLACION-VALVULA DER, VAPOR RECALENTAD) (0 4		6 26DEC96		2 9 ,182	3308 1320273 1
T62-45	AP	TBICALIBRAR INTERCEPT-VALVULA DER. VAPOR	-	0 4		8 27DEC96			Z
£62-50		TBIREM, AISLACION TAPA-VALVULA IZQ, RECALENTADO	+ () 4	+	4 28DEC96		-	AST :
T62-51	-	BIREM.TUERCA TAPA-VALVULA IZQ. VAPOR	1	0 4		8 30DEC96			8
T62-52	1	BISOLTAR BRAZO INTERCEPT(VALV. IZQ. VAPOR)14		4 31DEC96		-	1
T62-53	1	BIREM, INTERCEPT Y CEDAZO-VALV IZQ, VAPOR	-	14		4 31DEC96		4	7
T62-54		B DESARMAR INTERCEPT-VALV, IZQ, VAPOR		4		31DEC96		4	
T62-55	-	BIMEDIR EJE Y CASQUILLO-VALV, IZQ, VAPOR		4		02JAN97	03JAN97	4	8
T62-56		BIPRUEBAS RAJADURAS- VALV. IZQ, VAPOR		4		03JAN97	04JAN97		- S
T62-57		BIPRUEBA CONTACTO-VALV. IZQ. VAPOR RECALENTADO	1	4	-	04JAN97	07JAN97	4	
T62-58		B LIMP, PIEZAS INTERCEPT-VALVULA IZQ, VAPOR RECAL		4	1	02JAN97	C3JAN97	-	AST .
T62-59	1	BIARMAR INTERCEPT-VALVULA IZQ. VAPOR		4	1	02JAN97			3
T62-70		B DESACOPLAR VALVULA IZQUIERDA VAPOR		4	-		04JAN97		Z .
T62-71		BIREM. PULL DOWN RING-VALV. IZQUIERD VAPOR			1	31DEC96	02JAN97		4
T62-71		B REMOVER VALVULA IZQUIERDA VAPOR RECALENTADO		4		02JAN97	02JAN97		Z .
T62-73	1	B DESARMAR VALVULA IZQUIERDA VAPOR RECALENTADO		4	1	02JAN97	03JAN97		
		B LIMPIAR-ACOND. PIEZAS VALVULA IZQ. VAPOR		4	1	03JAN97	03JAN97		×
T62-74			0	1007/1		03JAN97	07JAN97		4387
		MEDIR EJE Y CASQUILLO-VALVULA IZQ. VAPOR	0	69.2		07JAN97	08JAN97		M .
T62-76		REALIZAR PRUEBA RAJADURA-VALV. IZQ.	0			08JAN97	08JAN97		X
T62-77	1	REALIZAR PRUEBA CONTACTO-VALV. IZQ. VAPOR	0	2		08JAN97	08JAN97		2
T62-78		ARMAR VALVULA IZQUIERDA VAPOR RECALENTADO	0			08JAN97	C9JAN97		A .
T62-79		INSTALAR VALVULA IZQUIERDA VAPOR RECALENTADO	0			09JAN97	10JAN97		Z .
92-80 92-80		INST. PULL DOWN RING-VALVULA IZQ. VAPOR	0			10JAN97	10JAN97		X
, 62-81		INST.ACOPLE VALVULA-PISTON(VALV. IZQ, VAPOR	0			10JAN97	11JAN97		A I
T62-90		INST.CEDAZO VALVULA IZQUIERDA VAPOR	0			11JAN97	11JAN97	-	X
T62-91		INST. VALVULA INTERCET-VALV. IZQ. VAPOR RECALENT	0			11JAN97	11JAN97		X
T62-92		APRETAR TAPA VALVULA IZQ. VAPOR RECALENTADO	0			11JAN97	13JAN97		Ø
T62-93		INSTALAR LINEAS VAPOR-VALV. IZQ. VAPOR RECALENT	0			13JAN97	14JAN97		N .
T62-94		INST. AISLACION-VALVULA IZQ. VAPOR RECALENTADO	0			14JAN97	15JAN97		S
I measure active		CALIBRAR INTERCEPT-VALVULA IZQ, VAPOR	0	•	8	16JAN97	16JAN97		Z
12		ROL SUPERIOR Y INFERIOR REM. ENVOLVENTES -VALVULA CONTROL SUPERIORES	0 4	l T	8	13DEC96	13DEC96	22	1
	Marin Salara	REMOVER AISLACION-VALVULA CONTROL SUPERIORES	0 4				14DEC96	Z Z	
200000000000	APTB	REM. CABEZAL LINEA VAPOR-VALV. CONTROL	0 4			16DEC96		A	
10000		REM. CAM SHAFT- VALVULA CONTROL SUPERIORES	0 4				18DEC96	N	
DOZED STETO	APTB	REMOVER VALVULAS CONTROL SUPERIORES	0 4			8DEC96		2	:
		DESARMAR VALVULAS CONTROL SUPERIORES	0 4				24DEC96	807	1
		LIMPIAR-ACOND. PIEZAS -VALV. CONTROL SUPERIORES	0 4	+			28DEC96	4	
		MEDIR EJES-CASQUILLOS-VALV. CONTROL	0 4	+			24DEC96	X	
		PRUEBAS RAJADURAS-VALV. CONTROL SUPERIORES	0 4				24DEC96	X	
		PRUEBAS CONTACTO-VALVULA CONTROL	0 4				24DEC96	X	
		ARMAR VALVULAS CONTROL SUPERIORES	0 4				31DEC96		-
		NSTALAR VALVULAS CONTROL SUPERIORES	04	+			24JAN97		. I
1		APRETAR VALVULAS CONTROL SUPERIORES	04	+			08JAN97		AN :
		REM. COJINETE CAM SHAFT-VALV. CONTROL	0 4	+			9JAN97		Z ·
		IMPIAR-ACOND, EJE, COJINETE-VALV, CONTROL	04	+	80		CUAN97		Z :
	2.00	NSTALAR CAM SHAFT- VALVULA CONTROL	04	+	16 1	CUAN97	3JAN97	_	S

Mer.

Activity	AR	EA Activity description	*	00.000	LRE	1: BXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Early finish		DEC	JAN	J.E
T63-34	AP	TB INST. RESORTES VALVULA CONTROL SUPERIORES		0 4	200000	8 13JAN97	14JAN97		A 1643	30.8 ;13.20	4(3) 110
-63-36	AP	TB INST. CABEZAL LINEA VAPOR-VALV. CONTROL	Ţ	0 4	1	8 14JAN97	14JAN97	1		Z.	•
63-38	AP	TB CALIBRAR VALVULAS CONTROL SUPERIORES	T	0 4		8 15JAN97	15JAN97	1		X	
1 63-40	AP	TB INSTALAR AISLACION-VALVULA CONTROL SUPERIORES	İ	0 4	11	6 15JAN97	16JAN97		1	M	1
T63-42	AP	TB INST. ENVOLVENTE TURBINA-VALV. CONTROL	T	0 4	1	8 18JAN97	20JAN97	1		AST .	
T63-52	APT	B REMOVER AISLACION-VALVULA CONTROL INFERIORES	t	0 4	1	8 14DEC96	16DEC96	1	Ø		
T63-54	APT	FBIREM, CABEZAL LINEA VAPOR- VALV. CONTROL	;	0 4	1	16DEC96	17DEC96	1	Ø		
T63-56	APT	BIREM. CAM SHAFT- VALVULA CONTROL INFERIORES	1	0 4	1 8	17DEC96	18DEC96	1	W	1	
T63-58	APT	BIREMOVER VALVULAS CONTROL INFERIORES	-	0 4	16	18DEC96	19DEC96		N	1	
T63-60	APT	BIDESARMAR VALVULAS CONTROL INFERIORES	1	0 4	24	19DEC96	23DEC96	1	AV		
T63-62	APT	B LIMPIAR-ACOND. PIEZAS -VALV. CONTROL INFERIORES	1	0 4	24	23DEC96	26DEC96		207		
T63-64	APT	B MEDIR EJES-CASQUILLOS-VALV. CONTROL INFERIORES	1	14	1	23DEC96	23DEC96		X		
T63-66	APT	B PRUEBAS RAJADURAS-VALVULAS CONTROL	(14	8	23DEC96	24DEC96		Ø		
T63-68	APT	B PRUEBAS CONTACTO-VALVULA CONTROL INFERIORES	-	4	8	23DEC96	24DEC96		SI	İ -	
T63-70	APT	B ARMAR VALVULAS CONTROL INFERIORES	-	4	24	26DEC96	30DEC96		A	a	
T63-72	APT	B INSTALAR VALVULAS CONTROL INFERIORES	C	4	24	30DEC96	02JAN97		4		
T63-74	APT	B APRETAR VALVULAS CONTROL INFERIORES	C	4	24	02JAN97	07JAN97			4307	
T63-76	APT	B REM. COJINETE CAM SHAFT-VALV. CONTROL	0	4	8	07JAN97	08JAN97			N	
T63-78	APT	B LIMPIAR-ACOND. EJE, COJINETE-VALV. CONTROL INFERI	0	4	8	08JAN97	08JAN97			A	
T63-80	APT	B INSTALAR CAM SHAFT- VALVULA CONTROL	0	4	16	09JAN97	10JAN97			Ø	
T63-82	APT	B INST. RESORTES VALVULA CONTROL INFERIORES	0	4	16	10JAN97	13JAN97			AN7	
T63-84	APT	B INST. CABEZAL LINEA VAPOR-VALV. CONTROL	0	4.	16	13JAN97	14JAN97.			Ø	
3-86	APT	B CALIBRAR VALVULAS CONTROL INFERIORES	0	4	2	15JAN97	15JAN97			X	
o3-88	APT	INSTALAR AISLACION-VALVULA CONTROL INFERIORES	0	4	16	16JAN97	18JAN97			Ø	
		DE HIDROGENO (H2)									
1		FABRICAR ANDAMIO PARA ENFRIADORES DE H2		4		10DEC96	12DEC96	I	7		
T73-04	1	REMOVER LINEAS AGUA-ENFRIADORES H2		4		13DEC96	13DEC96		Z ·	8	
11		REMOVER SELLOS INFERIORES-ENFRIADORES H2		4			14DEC96		N .		
		REMOVER SELLOS SUPERIORES-ENFRIADORES H2		4		14DEC96			SI .		
		REMOVER ENFRIADORES H2 REPARAR ENFRIADORES DE HIDROGENO (H2)	0			16DEC96	18DEC96		S		
1		INSTALAR ENFRIADORES DE HIDROGENO (H2)	0			19DEC96			2007		
1		INST. JUNTAS- SELLOS INFERIORES ENFRIADORES H2	0			19DEC96 23DEC96			2		
		INST. JUNTAS-SELLOS SUPERIORES ENFRIADORES H2	0				27DEC96		8		
	100 to 10	APRETAR TAPAS ENFRIADORES HIDROGENO (H2)	0				30DEC96		4		
1		CONECTAR LINEAS AGUA ENFRIADORES HIDROGENO	0				02JAN97	-	4	,	
AND CONTRACTOR OF		REMOVER ANDAMIO AREA ENFRIADOR H2	0				03JAN97			7	
William Control of	200000 V.M.	VOTIL						+		· · · · · ·	-
		VIDA UTIL PREPARATIVOS (VER LISTADO DE	0	1	40	13DEC96	19DEC96	4	367		
V10-02	VIUT	LINEA DE VAPOR PRINCIPAL	0	1	16	200EC96	23DEC96		257		
V10-04	VIUT	LINEA DE VAPOR CALIENTE DEL RECALENTADOR	0	1	16	24DEC96	26DEC96		27		
V10-06	VIUT	LINEA DE VAPOR FRIO DEL RECALENTADOR	0	1	16 2	270EC96	30DEC96		ASS		
0-08	VIUT	PREPARATIVOS EN LA CALDERA	0 1		83	IDEC96	31DEC96		. **		
		TRABAJO GENERAL VIDA UTIL- INFORME ING. SANTANA	0 1		20 0	2JAN97	79MAL70	1	-	107	
-12-02	VIUT	INSPECCION CALDERIN PRINCIPAL	0 1		8 0	75AN97	08JAN97			Z	
		6									

PUERTO RICO ELECTRIC POWER AUTHORITY San Juan Steam Plant Inspection and Analysis Program

San Juan Steam Plant Unit 10 was out of service from August 3,1996 through October 30, 1996. During the outage the following equipment were repaired, installed or replaced to insure the unit's environmental compliance.

I. FUEL OIL HANDLING

A. Fuel Oil Pump

- 1) The suction valve of pump 10-1 was repaired.
- 2) The bunker "C" oil pump pressure control and pressure regulator valves were inspected and calibrated.

B. Fuel Oil Heaters

- Packing were replaced in all valves.
- Relocation of oil pressure constant valve was made.
- New fuel oil heater steam regulator valve was installed calibrated.

C. Burner Insolation Valves

- New valves were installed in all burners.
- Re-arrangement of propane headers were made on burners of corner A and B.

D. Burner

- 1) All burners venturies and air slides assemblies were replaced.
- 2) Ten (10) burners center assemblies were repaired and the others ten (10) were installed new.
- Modified air slides were installed by recommendation of Peabody Engineering, adding a universal joint between the air actuator and the air slide rods.



- 4) Faces contact, short circuit and pressure test were made for burner tips and hoses.
- 5) New system, trifectas valves were installed in all burner.

E. Viscosimeter

- 1) New viscosimeter was installed in burner system.
- Cleaned, calibrated and tested the new viscosimeter.

F. Burner Management System

- 1) A new Forney-Foxboro burner management system was installed.
- A new main flame detection system was installed and verified.
- A new igniter flame detection system was installed and verified.
- 4) All burners were fired and their flame calibrated.
- 5) New igniters were installed (model maxfire 10).

II. COMBUSTION CONTROL

A. Atomizing Steam Controls

- 1) Calibrated the transmitters for the atomizing steam press 0 200 psi.
- Performed maintenance and tested the atomizing steam press trip and alarm.
- 3) The atomizing steam control valve was inspected and calibrated.

B. Combustion Control System

- 1) Calibrated the transmitters for the fuel oil press.
- 2) New characterization curves were drawn for the boiler operation under balanced draft conditions.
- 3) Oil regulating valve, oil trip valve, burner header and boiler header recirculating valve was inspected and calibrated.

C. Alarm Panels

- 1) New alarm for low and high pressure in furnace was installed.
- Flasher board of panel number two (2) was replaced.
- 3) All power supplies were inspected.
- 4) Ten (10) alarm boards were replaced.

III. COMBUSTION AIR

A. Air Preheater

- All Pressure transmitters have been inspected and calibrated.
- 2) Sensing lines were inspected and checked for deposits of soot in the pipe.
- Hot and cold baskets were replaced.
- Cold end radial, axial and by-pass seals were replaced and calibrated at design specifications.

B. Steam Coil

- All valves in both stem coils were inspected. Maintenance of all valves were made. Packing was replaced in all valves.
- New valves were installed in both regulator by-pass valves.
- 3) The steam coils and steam pressure regulator were inspected and calibrated.

C. Diffusers / Swirlers

1) All were installed new and calibrated at design specifications.

D. Wash Steam Radiators

1) Steam Coils were water washed (high pressure), all rags, papers and garbage was removed from them.

IN

E. Fan

- 1) New filters were installed in both scanner blower fans.
- 2) Both scanners blowers were balanced.
- 3) New control vane pistons were installed and calibrated in the forced draft fan control vane & shut-off and in the Recirculating gas fan control vane & shut-off.
- 4) Forced draft fan 10-1 and 10-2
 - * The Fan and its bearings were cleaned and inspected.
 - * All dampers and control vanes were greased and inspected.
- 5) Gas recirculating fan
 - * The fan and its bearings were cleaned and inspected.
 - * All dampers and control vanes were greased and inspected.

F. Duct and Furnace Casing Integrity

1) Rear wall from elevation 79' to 99' was repaired as necessary.

G. Air Slides

- 1) New air slides proximitors switches were installed.
- 2) All air slides were replaced by new ones.

IV. FLUE GAS HANDLING AND MEASUREMENT

A. Opacity

- 1) Due to Re-localization of the stacks both opacimeters were certified, calibrated by a technical advisor and verified their operation.
- 2) For both opacimeter:
 - Existing light duct was cleaned.
 - * The air filter was replaced.

B. Oxygen

1) Replaced existing probes with two new oxygen probes and performed calibration on them.

C. Thermocouple

- All thermocouple were tested and verified in good working conditions.
 - * Air in, Air out, Gas in and Gas out.

D. Sootblower

- All boiler and air heater soot blower, local, manual and auto operation were tested.
- 2) Boiler soot blower travel was tested.
- An overall maintenance was performed in every soot blower and the following works were done;
 - Traveling carriages were repaired as necessary.
 - * All lances and feed pipes were inspected and replaced as necessary.
 - Puppet valves were repaired as necessary.
 - * Travelling and rotary transmissions were inspected, oil checked and repaired as necessary.
- 4) New platforms were fabricated on economizer area for future soot blower installations in the area.
- 5) Waterwall offset were installed on economizer area on left and right wall at elevation 88'.
- 6) All soot blowers and thermoprobe were tested after maintenance and all of them were leave on operational conditions.
- 7) New packing seals were installed in all soot blowers.
- 8) Calibrations of steam pressure to blowers were made.
- 9) Performance of each blower were tested.

- 10) Soot blower steam regulating valve was inspected and calibrated.
- 11) Control pressure was cleaned, inspected and calibrated.
- 12) Manometer was inspected and calibrated.
- 13) Warming-up's were inspected and calibrated.

E. Boiler Wash

- The following areas were washed and cleaned by Limpiaca and Induchem companies.
 - * All slag from the furnace was removed.
 - * The stacks were water washed.
 - * The headers enclosure were cleaned and water washed.
 - * Economizer gas and air hopper were water washed.
 - * Reheater, primary and secondary superheaters and economizer elements were hydroblasted to remove all the slag.
 - * The penthouse and doghouse were water washed.
 - Waterwall tubes were hydroblasted.

F. Duct Work

- Air ducts were inspected and some patch were installed.
- Economizer outlet duct was repaired as necessary.
- 3) Some patch were installed on air preheater casings.
- 4) Economizer and gas recirculating fan outlet ducts expansion joints were repaired as necessary.

V. COMPLETE STEAM CYCLE

A. Pressure Parts

- All lower vestibule waterwall bends were replaced.
- 2) Fifty percent of lower waterwall mud drum bends were replaced. All of them from furnace center to the left wall; One hundred percent of welds were checked using x-ray tests.

- 3) Sixty percent of the mud drum outer surface was patch welded.
- 4) Hydrostatic test were performed during the following dates; October 16, 17, 18, 19 and 20, 1996.

B. Feedwater Heater

- 1) Heater level control and level control valve were inspected, cleaned and calibrated.
- 2) Packing were replaced as necessary in heater number 5 and number 6.
- 3) All non-return valves were opened and inspected. New gasket were installed.
- Repair of shell side on feedwater heater number 5.

C. Waterwall Integrity

Waterwall integrity was inspected and repaired as necessary.

/P954.inf

HARDWARE UPGRADE

	ī	I	through October 30,1996
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
I- FUEL OIL HANLING			
A- FUEL OIL QUALITY			
B - FUEL OIL PUMPS			
INSP. REP.& TEST AUTO START BKR	EL	7-Sep	Inspected and maintenance.
INSP TEST AUTO START PRESS.SWITCH	EL	7-Sep	Inspected and Tested.
INSPECT OR REPAIR PUMPS	ME	17-Oct	Inspected and repaired,
INSPECT AND CLEAR STRAINER	ME	17-Oct	Inspected and cleaned
INSP.&MAINT.PUMP ISOLATION VALVES	ME	17-Oct	Inspected & replaced
INSP.&MAINT OTHER VALVE PUMP SEC	ME	17-Oct	Inspected and maintenance
INSP.REPAIR FUEL OIL REC.VALVES	IN	14-Sep	Inspected and calibrated.
C- FUEL OIL HEATERS			
CALIBRATED I/P FUEL HEATER VALVE	IE	26-Oct	Tested and Verified
INSP.TEST FUEL OIL TEMP. THERMOCO	IE	26-Oct	Inspected.
INSP.TEST TEMP.FUEL OIL TRIP ALARM	ΙE	26-Oct	Tested and Maintenance.
CALIBRATED I/P FUEL REC. VALVE	IE .	26-Oct	Tested and verified.
INSP. OR REPAIR HEATING ELEMENTS	ME	17-Oct	Inspected.
NSP.OR REPAIR STEAM TRAP	ME	17-Oct	Inspected.
REP. LEAK PIPING ASSO. WITH HEATER	ME	17-Oct	Inspected. OK
NSP.OR REP. STEAM REG. VALVE	IN	14-Sep	New valve installed.
NSP.OR CHANGE THERM. AND MANO	IN	14-Sep	Inspected and Calibrated.
NSP.OR REP. HEATER RELIEF VALVE	IN	14-Sep	Inspected.
D- VISCOSIMETER			
NSP. & CLEAR TEST VISCOSIMETER	UP-		
NSP. OR REP. EQUIPMENT FOR	IE	26-Oct	New viscosimeter was installed
PACKING LEAK		17-Oct	Inspected .OK
- BURNER			
CLEAN OR REPLACEMENT BURNERS	- PO	00.0	
cont.) SIGHT GLASS	ВО	30-Sep	All gun & air slides were
VASH BURNER FLOORS	BG	20.0-4	inspected and cleaned
	BG	29-Oct	Water washed

HARDWARE UPGRADE

	T	I	, tillough October 30,1996
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
E - BURNER			
INSP. GUN INSERT SOLENOIDE	IE	26-Oct	Inspected and checked
& LIMIT SWITCH	1		and shooked
CHECK OR CHANGE NOZZLE ASSEMBLY	ВО	30-Sep	Replaced and repaired.
INSP.REPAIR ALL BURNERS	ME	17-Oct	Inspected & Mechanical
			Maintenance done
F- BURNER ISOLATION VALVE			2
INSP.LIMIT SWITCH & SOLENOIDE	IE	26-Oct	In an analysis of the second s
INSP. OR REPAIR OIL /STEAM LINE	ME	17-Oct	Insp. and one were changed
& RACK VALVES	IVIE	17-Oct	inspected as necessary
INSP. OR REPAIR TRIFECTAS VALVES	IN	14-Sep	Inspected, OK.
	11.4	14-3ep	inspected. OK.
INSP. & CHANGE THERMOMETER	IN	14-Sep	New were installed.
& MANOMETERS		14 оср	were installed.
G - BURNER MANAGEMENT SYSTEM			
INSP. ALL INDICATION LIGHT ON BMS			
INSP. & TEST ALL IGNITER	IE	26-Oct	Inspected o.k
INSP. LIMIT SWITCH TRIFECTAS, GUN INSE	IE	26-Oct	Inspected o.k
INSP. OR REPAIR SCANNERS		26-Oct	Inspected. ok
INSP.& TEST ALL MFT SIGNAL FROM	IE	26-Oct	Inspected o.k
DEVICES	IE	26-Oct	Inspected o.k
II -COMBUSTION CONTROL			
A- ATOMIZING STEAM CONTROLS			
INSP.& CALIBRATE ATOM.STEAM PRESS.	IE	26-Oct	Insp. and calibrated.
INSP.OR CALIBRATED I/P ATOM PRESS.	IE	26-Oct	Inspected and verified.
NSP.&CALIB.ATOM STEAM PRESS	IE	26-Oct	Performance maint, and tested.
ALARM & TRIP.		20 000	renormance maint, and tested.
NSP. & TEST ATOM STEAM TERMOCOUP	IE	26-Oct	Inspected and tested.
NSP. OR CALIB. ATOM STEAM	IE	26-Oct	Inspected.
TEMP REGULATOR			
NSP. OR REP. ATOMIZING STEAM REG	IN	26-Oct	Inspected.

HARDWARE UPGRADE

· ·	T	1	1 Ctober 30, 1996				
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS				
B - COMBUSTION CONTROL SYSTEM							
INSP.& CALIB. FUEL OIL SUPPLY	ΙE	26-Oct	Inspected and calibrated				
PRESS TRANSMITER							
CALIB. LOW OIL PRESS ALARM AND TRIP		26-Oct	Calibrated				
INSP.& CALIB. I/P FUEL OIL PRESS REG	ΙE	26-Oct	Inspected and calibrated				
TEST ALL MEASURE SIGNAL ON I/A	IE	26-Oct	Tested				
CONTROL LOOP							
TEST SOLENOID EQUIPMENT	IE .	26-Oct	Tested. ok.				
INSP. OR REPAIR PROPANE SYST.	IN	7-Oct	Inspected and calibrated.				
& VENT. VALVE							
INSP. OR REPAIR OIL	IN	7-Oct	Inspected and calibrated.				
RECIRCULATING VALVES							
INSP.& CHANGE MANOMETER	IN	7-Oct	Inspected.				
& THERMOMETERS							
C - ALARM PANEL							
INSP.OR REPAIR EQUIPMENT ALARM	.EL	27-Oct	Inspected and repaired.				
III-COMBUSTION AIR							
A- WINBOX							
A-I DIFFUSER/ SWIRLERS			· · · · · · · · · · · · · · · · · · ·				
INSP.OR CALIB.SWIRLES/DIFFUSER	ВО	30-Oct	All were installed new.				
GUN DISTANCE		00 000	7 in were installed flew.				
INSP. OR REPAIR SWIRLES/DIFFUSER	ВО	30-Oct	Inspected.				
A-2 AIR SLIDES							
INSP.OR REPAIR AIR & GAS DAMPERS	ВО	30-Oct	Inapparted				
INSP. OR REPAIR SOLENOID VALVES	IE	26-Oct	Inspected als				
INSP. & TEST PROXIMOTOR SWITCH	IE	26-Oct	Inspected, ok				
POSITION	- 11-	20-UC[Inspected and tested.				
INSP.& CLEAN FURNACE AND WIND	IN	26-Oct	Inapported als				
BOX PRESS	11.4	20-OCI	Inspected. ok				
A-3 REGISTER							
A-4 DAMPERS							



HARDWARE UPGRADE

		August 3	through October 30,1996
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
A-4 DAMPERS		1	
INSP. OR REP. AIR AND GAS DAMPER	ВО	30-Oct	Insp., no work required
A-5 DUCT AND FURNACE CASING INTEG	ri .	1	mor, no work required
INSP. OR REPAIR INNER & OUTER	ВО	30-Oct	Elevation 79' to 99' were repaired
CASING	İ		as neccessary.
A-6 TILTING MECHANISM			
B - AIR PREHEATER			
INSPECT SOOTBLOWERS	ВО	23-Oct	Inspected
INSP. OR REPAIR TURBINE AIR	BO	23-Oct	Inspected no work required
DRIVER MOTOR		20 000	inspected no work required
INSP. OR REPAIR SECTOR PLATES	ВО	23-Oct	Inspected no work required
INSPECT & REPAIR ROTOR CASING	ВО	23-Oct	Inspected-O.K
INSP. LUBRICATION SYSTEM	ВО	BO	23-Oct
INSP. AXIAL & CIRCUNFERENCIAL SEAL	ВО	23-Oct	Replaced.
INSP. OR REPAIR HEATING ELEMENTS	ВО	23-Oct	Replaced.
INSPECT DRAIN LINES	ВО	23-Oct	Inspected-O.K
INSP.OR REPAIR WASHING DEVICE	BO	23-Oct	Inspected no work required
INSP. OR REP. DIFFERENTIAL PRESS.	ΙE	26-Oct	Inspected and calibrated.
INSP.& TEST TURBINE AIR SOLENOID	IE	26-Oct	Inspected and tested
& ALARM			No work required
INSP.OR REPAIR AIR/GAS THERMOCOU	ΙE	26-Oct	Inspected physically
INSPECT A.H. SENSING LINES	IE	26-Oct	Inspected. ok
C- FANS			
INSPECT OR REPAIR FDF	AX	17-Nov	Inspected and balanced.
INSPECT OR REPAIR IDF	AX	30-Oct	Installed in this program
INCO OD COM			program outage
INSP.OR REPAIR BEARINGS	AX	4-Nov	Inspected and cleaned.
INSP. OR REPAIR GRF	AX	12-Aug	Inspected. ok
INSP. & REPAIR SHUTT OFF DAMPER	ВО	30-Oct	No work done.
INSPECT IDF & FDF MOTOR	EL	28-Oct	Inspected and checked.
INSP.OR REP. CALB. OF SENSOR	ΙE	26-Oct	Inspected
VIBRATION IN ALL FAN			
INSP. OR REPAIR SOLENOID & ALARM	IE	26-Oct	Inspected. ok
INSP. & REPAIR I/P FOR EACH FAN	IE	26-Oct	Inspected O.K

HARDWARE UPGRADE

ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
C- FAN (CONT.)			COMBITIONS
INSP. OR REP. SCANNER FAN	ME	19-Oct	Inspected. ok
CHANGE OIL IN ALL BEARING FAN &	ME	19-Oct	Inspected . ok
OIL LEAKAGES		10 000	mspecied . Ok
TEST FAN ANTILOCK SYSTEM &	IE	15-Oct	Tested , O.K
PNEUMATIC VALVE CONTROL		10 001	resteur, o.i.
INSP. OR REP. MANOMETER AND	IN	15-Oct	Inspected
THERMOMETER		10 001	moperied
D - STEAM COIL			
WASH STEAM RADIATOR	BG	7-Apr	Water washed (high press.)
INSP. OR REPAIR I/P CONTROL VALVE	IE .		Next program outage
INSPECT STEAM RADIATOR	ME	12-Apr	Inspested & checked
INSP. OR REPAIR STEAM TRAP	ME	12-Apr	Inspested & checked, o.k
INSP. MANOMETER AND THERMOMETER		15-Oct	Inspected. ok
INSP. OR REPAIR REGULATOR POS.	IN	15-Oct	Inspected and calibrated.
IV- FLUE GAS HANDLING AND MEASU.			
A- DUCTWORK			
INSP. OR REP. AIR & GAS DUCTS	ВО	15-Aug	Insp.and repaired as neccessary
INSP.OR REPAIR BOILER STRUCTURE	ВО	15-Aug	Inspected, no work required
B- INSTRUMENTATION			
B-1 OXYGEN			
NSPECT OR REPAIR O2 ANALIZERS	IE	26-Oct	Installed new.
B-2 OPACITY			
CLEAN LIGHT DUCT IN BOTH OPACITY	IE	26-Oct	Classed O.K
CHECK CALIBRATION OF BOTH SMOKE	IE	26-Oct	Cleaned, O.K
DETECTOR	- '-	20-001	checked & calibrated, Ok
NSP. RECORDER OPERATION & CONF.	IE	26-Oct	Inapasted O.K.
TEST ALARM OPERATOR	IE	26-Oct	Inspected O.K
3-3 TEMPERATURE	IL.	20-UCI	Tested o.k
NSPECT OR REPAIR MISCELANEOUS	ΙΕ	26-Oct	Inonested and to the
		20-UCI	Inspected and tested.



HARDWARE UPGRADE

	T	- inguot o	, through October 30,1996
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
B-4 DRAFT		Commence of the Commence of th	
INSP. OR REP. SENSING LINES	IN	27-Sep	Inspected. ok
C- SOOTBLOWER		ш. оор	mopected. Ok
INSPECT OR REP. SOOT BLOWERS	ВО	30-Oct	Inspected and overall maintenance
ASSEMBLY			was performance.
INSP. & MAINTENANCE LIMIT SWITCH	EL	25-Sep	Cleaned ,inspected & tested
INSP. SOOTBLOWER ELECTRIC PANEL	EL	25-Sep	Preventive maintenance was done
INSPECT RETRACT SOOTBLOWER -	ME	29-Oct	Inspected & repaired
PACKING			weposted a repaired
INPS. OR REP. SOOTBLOWER STEAM	IN	27-Sep	Inspected ,cleaned and calibrated
REG. VAL. & PRESS. CONTROL			and the campiated
INSPECT OR REPAIR THERMO DRAIN -	IN	27-Sep	Inspected
VALVES			
D- BOILER WASH			
WASH STACK AND AIR HEATER	ВО	5-Aug	Washed
WASH PEN-HOUSE & DOG HOUSE DUCTS	ВО	5-Aug	cleaned & washed
CLEAN BOTTOM FURNACE	ВО	5-Aug	cleaned
WASH & CLEAN GAS CONDUCTS	ВО	5-Aug	cleaned & washed
WASH INDUCED FANS	ВО	5-Aug	It will be install in the next
			maintenance program outage
WASH SUPERHEATER & REHEATER -	ВО	5-Aug	Washed (hydroblasted)
TUBES			(injurable of
WASH LOW TEMP. SH & ECONOMIZER	ВО	5-Aug	Washed (hydroblasted)
CLEAN AIR HOPER	ВО	5-Aug	Cleaned
A*-			
/ - COMPLETE STEAM CYCLE			
A- PRESSURE PARTS	-		
CHANGE OR REP. BROKEN TUBES	ВО	16-Aug	Changed and repaired.
		. 3	orianged and repaired.
NITIAL AIR TEST	ВО	16-Oct	Inspected
NITIAL HIDROSTATIC TEST	ВО	16-Oct	Inspected
NSPECT & REPAIR PRIMARY &	ВО	16-Oct	Inspected ,No repair necesary
SECONDARY S.H.			
NSP. PLATTEN S.H	ВО	16-Oct	Inspected ,No repair necesary
NSPECT REHEATER	ВО		Inspected ,No repair necesary
FINAL HIDROTEST	ВО	16-Oct	Inspected ,No repair necesary

HARDWARE UPGRADE

		August 3	, through october 30,1996
ACTIVITY DESCRIPTION	SECTION	DATE	CONDITIONS
B- FEED WATER HEATER		XX.	The second secon
INSP. OR REP. ALARMS	EL	14-Sep	Inspected and tested.
INSPECT HYDRASTEP	IE	оор	Next program outage
INSPECT THERMOCOUPLE	IE	-	Next program outage
CALIBRATE I/P	IE		Next program outage
INSP. & CALIB. I/P DEARATOR LEVEL-	IE		Next program outage
HOTWELL LEVEL			
INSP. OR REPAIR SIDE GLASS LEVEL	ME	20-Sep	Inspected, ok.
INSP. & REPAIR HEATER IF NECESSARY	ME	20-Sep	Inspected and repaired.
MAINT. ISOLATION VALVES & OTHER -	ME	20-Sep	Inspected and maintenance was
VALVES ASS.	1 1		done.
INSP. REG. VAL. AND CONTROLS	IN ·	1-Oct	Inspected, cleaned & calibrated.
INSPECT NON-RETURN VALVES TRIP -	IN	1-Oct	Inspected and tested.
MECHANISM			mopeoted and tested.
INSP. MANOMETER THERMOMETER	IN	1-Oct	Inspected. ok
C- WATER- WALL INTEGRITY			mopoted: ox
INSPECT ECONOMIZER	ВО	4-Sep	Inspected, No work required
INSPECT DRUM & HEADER	ВО	4-Sep	Inspected, No work required
INSPECT DOG HOUSE	ВО	4-Sep	Inspected, No work required
VI- CONDENSER WORK		. 000	mopeoted, 140 Work required
CLEANING CONDENSER TUBES	BG	15-Oct	Hydroblasted and cleaned
URANINE TEST & BROKEN CAPS	BG	15-Oct	Tested performed & two
		10 001	tube was found bad.
REPAIR HOLES AND CONDENSER	Me	2-Sep	Inspected and repaired.
INFILTRATION		2 оср	mspecied and repaired.

Activity ID	AREA	Activity Description	Rer# Dur	Ewly Start	Eury Finish	Comp	AUG	SEP	CCI
OMIENZO		TONIENTO DE LA DEDADACION	-	2200704	2400700	-			1
10-00	AUXI	COMIENZO DE LA REPARACION	0	22OCT96	21OCT96	0			1 2
MBA AL	AUXI	RR 10-2 BOMBA ALIMENTACION DE CALDERAS 10-2	0	DEALICOE	2400706		7		
				05AUG96	21OCT96	0	A		1 1
A41-02	PLIE	DESC. MOTOR ELECTRICO	0	12AUG96	12AUG98	100	X	i	
A41-06	AUXI	DESARMAR COJINETES E INSPECCIONAR	0	13AUG98		100	M		
A41-08	AUXI	MEDIR COJINETES Y MUNONES	0	14AUG96	14AUG96	100	区		
A41-09	PLIE	LIMP-INSP.ELECTRICA ROTOR Y ESTATOR	0	14AUG96	14AUG96	100	X		
A41-10	AUXI	LIMP. MANTENIMIENTO A PIEZAS TORNILLERIA EN GEN.	0	15AUG96	09SEP96	100	Mores		
A41-12	AUXI	INSP.MECANICA Y BALANCE ROTOR MOTOR T.M.G.	0			100		İ	翠
A41-14	AUXI	INST.ROTOR EN ESTATOR	0	06SEP96	12SEP96	100	1		
A41-16	AUXI	ARMAR MOTOR ELECTRICO	0	05SEP96	13SEP96	100		1007	
A41-18	AUXI	REM.LINEAS DE ACEITE Y ENFRIAMIENTO BOMBA	0	23AUG96	03SEP96	100	4		
A41-20	AUXI	REM.EMPAQUETADURAS 2 LADOS,MEDIR RECORRIDO	0	03SEP96	03SEP96	100		M	
A41-22	AUXI	REM.COJINETE DE EMPUJE Y MEDIR RECORRIDO TOTAL	0	05SEP96	05SEP96	100		X	
A41-24	AUXI	DESARMAR COJINETES AMBOS LADOS	0	26AUG96	26AUG96	100	×	K	
A41-26	AUXI	DRENAR TANQUE ACEITE, REMOVER BOMBAS LUBRICACION	0	27AUG96	27AUG96	100	Z	K	
A41-27	AUXI	INSP.LINEAS ENFRIAMIENTO Y TANQUE DE ACEITE	0	28AUG96	16SEP96	100	4		1
A41-28	AUXI	INSPECIONAR COOLERS	0	23AUG96	17SEP96	100		TO FROM S	+
A41-29	AUXI	INSP.MEDIR-REP. COJINETES BOMBA	0	04SEP96	06SEP96	100		M	
A41-30	AUXI	DESARMAR BOMBA- INSTALAR JUNTA	0	05SEP96	05SEP96	100		X	
A41-32	AUXI	MONTAR BOMBA (INST-APRETAR END HEAD)	0	05SEP96	06SEP96	100		W	
A41-34	AUXI	MEDIR RECORRIDO AXIAL E INST.TANQUE DE ACEITE	0	20SEP96	27SEP96	100		44	1
441-36	AUXI	INST. CAJUELAS COJINETES,ALINEAR-INST.COJINETES	0	06SEP98	27SEP96	100		April 1000	
41-38	C. Sun Color	INST. COJINETE EMPUJE REPARTIR RECOJIDO	0	06SEP96	27SEP96	100		Asserted 2	
A41-40	AUXI	CERRAR COJINETES INST. LINEAS AGUA YLUBRICACION	0	17SEP96	30SEP96	100		Appl	
A41-48	AUXI	INST, MITAD BOMBA, ALINEAR ACOPLE MTR-BOMBA	0	18SEP96	02OCT96	100			7
A41-50	AUXI	LLENAR TANQUES DE ACEITE INST. INSTRUMENTACION	0	02OCT96	03OCT36	100			M
A41-80		PROBAR LA BOMBA	4	22OCT96	22OCT96	0		 	T X
		CION CALDERA 10-1						-	H-T
A42-00		BOMBA ALIMENTACION DE CALDERAS 10-1	0	22OCT96	21OCT96	0			X
A42-02	AUXI	DESC. MOTOR ELECTRICO	0	05AUG96	05AUG96	100	K		I
A42-04		DESACOPLAR Y REM. MOTOR DE BOMBA	0		07AUG96	100			
A42-06	The same of	DESARMAR COJINETES, ABRIR MOTOR Y REM. ROTOR	0	08AUG96		100	W		
A42-08		MEDIR COJINETES Y MUNONES RTR.MOTOR ELECTR.	0		08AUG96				
A42-09		LIMPIEZA-INSP.ELECTRICA RTR Y ESTATOR	0		09AUG96	100			-
A42-50		LLENAR TANQUES ACEITE-INST.INSTRUMENTACION	0		04OCT96	100			
A42-80		PROBAR LA BOMBA	4	22OCT96	22OCT96	0			X
		RZADO 10-1 (BROCK & BLEVIN)							$-\mp$
A61-00		REPARACION DE ABANICOS FORZADO 10-1	0	22OCT96	210CT98	0			X
A61-02		REMOVER MOTOR VIEJO	0	15AUG96	03SEP96	100	ATTERES	9	
A61-03		MODIFICAR BASE INTALAR MOTOR NUEVO	0	05SEP98		100		A	
A61-04		INTALAR MITAD DE ACOPLE AL MOTOR NUEVO MONT. SUB	0			100			7
A61-06		REM. MANGAS H2O ENFRIMINSP. MISMAS	0			.100			
A61-08		REMOVER - INSP. COJINETES	0			100			_
A61-09		MEDIR-REPARAR-INST COJINETES ABANICOS	0			100			
A61-10		INSP. REPAR. AMBOS CONTROL VANES LUB. MISMOS	0			100			
	130000000000000000000000000000000000000					100			
A61-12	CONT	INSP Y REPARAR ENVOLVENTES NDT ROTOR	0		- 3	100		1 1	

Project Dids: 86AU805-6050 | AMURENDESSE | Strip for Project Prints 210CT95-2050 | AMURENDESSE | Strip for Dids Dids 220CT05-9051 | AMURENDESSE | Strip for AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE | AMURENDESSE |

ALCANCE UNIDAD # 10

CENTRAL SAN JUAN PUERTO RICO

PROYECTO CONVERCION NEGATIVA

Activity LED	AREA	Adhily Descriptors	Pag		Early	96	-ATEG	I SEP	
A61-16	CONT		. 0		Finish	Comp 100	1.1	L SCP	1
A61-18	CONT	PROBAR EL EQUIPO BALANCEAR SER NECES.	0	-		100	-		A44
161-20	CONT	REPARAR AMBAS MITADES ENVOLVENTE DEL ABANICO	0		-	100	-		文
A61-58		ALINEAR EL ABANICO Y ACOPLAR	0	+					双
A61-59	CONT		0	+	-	100			*
A61-60	OPER	PROBAR EL ABANICO	8	22OCT96	2200700	100	-		X
REP. ABA	1	DRZADO 10-2 (BROCK & BLEVINS)		2200190	23OCT96	0			XX
A62-00		REPARACION DE ABANICOS FORZADO 10-2	0	22OCT96	21OCT96	0	-		
A62-02	AUXI	REMOVER MOTOR VIEJO	0	08AUG96		1	Account ST		寥
A62-03	CONT	MODIFICAR BASE INTALAR MOTOR NUEVO	0	29AUG96	20,10000	1.00		:	
A62-04	_ L	INTALAR MITAD DE ACOPLE AL MOTOR NUEVO MONT. SUB	0	2370030	-	100	A	Ø	
A62-06		REM. LINEAS H2O ENFRIMLINSP. MISMAS	0	-	-	100			翠
A62-08		ABRIR LIMP. INSP. REPARAR COJINETES	0		-	100			**
A62-10	1	INSP. REPAR. AMBOS CONTROL VANES LUB. MISMOS	0		-	100			X X X
A62-12	1	INSP Y REPARAR ENVOLVENTES NOT ROTOR	0	-	-	100			*
A62-14		INST.MANGAS H2O -ENFRIAMIENTO	+	-	-	100			X
A62-16		ALINEAR PROBAR MOTOR MED. CENTRO MAGNET. Y ACOP.	0			100			*
A62-18		PROBAR EL EQUIPO BALANCEAR SER NECES.	0			100			X
	1	ULAR GASES	7	22OCT96	22OCT96	0			X
A70-00		ABANICO RECIRCULAR GASES		T 222 277 2	T				
A70-02	AUXI	LIMPIEZA EXTERIOR MOTOR AREA DE COJINETES	0	22OCT96	21OCT96	0		_	X
A70-06	AUXI	DESC. MOTOR ELECTRICO-ABRIR-REM.ROTOR	0	03SEP96	03SEP96	100		K	
A70-08	AUXI	LAVINSPREPARAR NECESARIO ESTATOR-RTR	0	28AUG96	28AUG96	100	X		
A70-10	AUXI	BALANCEAR ROTOR T.M.G.	0	04SEP96	96SEP96	100	4	W	
170-18	AUXI	REM. MANGAS DE ENFRIAM.Y COGINETE ABANICO	0	18SEP96	20SEP96	100		H	
70-20	AUXI	INSPMEDIR-REP. SI NECESARIO COJINETES	0	12SEP96	91OCT96	100		Anomal /	
A70-22		CERRAR COJINETES-INST.MANGAS ENFRIAMIENTO	0	05SEP96	27SEP96	100	1	DEBESSES.	
A70-24		INST.ROTOR Y COJINETES MOTOR	0	19SEP96	02OCT96	100		April 7	
A70-26		INST.ROTOR-COJINETES-CERRAR MTR.ABANICO	0	19SEP96	04OCT96	100		Market 1	
A70-28		ACOPLAR-CONECTAR-PROBAR ABANICO GRE	0	20SEP96	04OCT96	100		A POST OF THE PARTY OF THE PART	
A70-32		INSP. Y REPARAR ENVOLVENTE DEL ABANICO	14		23OCT96	0			A
			0	23SEP96	04OCT96	100		1	
NAL AUXI	-	FIN REPARACION AUXILIARES	_		,				
		ON DE AISLACION	0	24OCT98	23OCT96	0	.		Z
802-04		REMAISLACION CONDUCTO FORZADO	•	00111000					
802-06		TERMINAN TRABAJOS DE REMOCION AISLACION	0						
B02-76		LIMPIEZA	0			100	A CONTRACTOR OF THE PARTY OF TH		
EAISLACIO	1	LIMIT ILLUM	2	19AUG96	22OCT96	95	(FEE)	HA CHICAN	
		COMIENZO REAISLACION	0						
		PINTAR CALDERA Y EQUIPOS		40411000		100			2
		REMOCION E INSTALACION DE AISLACION				100			
		REPARAR CUBIERTA CONDUCTO WIND BOX	-				SERVICE .		
		INTALACION AISLACION TRIFECTAS	-			100			
VADO CA		TALACION ACLACION TAI ECTAS	0	19SEP96	14OCT96	100		A STATE	
		LAVAR LA CALDERA POR FUERA	0	DEALLONG TO	Calloga				
		PRUEBA HYDROSTATICA		05AUG96		100 1	1		
		ABRIR PUERTAS DE CALDERA		05AUG96 0		00 K	į		
		AVAR RECALENTADOR Y SUPERCALENTADOR DE ALTA				00 K			
1		IMPIEZA A LOS EMBUDOS DEL ECONOMIZADOR				00 1	ĺ		
						00			
		IMPIAR CALENTADORES AIRE Y EMBUDOS AIRE Y GAS AVAR CHIMENEAS Y CALENTADORES DE AIRE				00			
						00 X			
		AVAR CONDUCTOS Y EMBUDOS DE AIRE Y GAS				00 🛚	į	,	r
		AVAIR DELICATION OF A CONTROL OF THE				00			
104-32	L	AVAR PENT HOUSE DOG HOUSE	0 0	MAUG98 0	7AUG98 1	00	i		d

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Activity #D	ARE	Activity Diseases	200040000000000000000000000000000000000	ur Eury ur Sing	Emy		j-,,,	GIA	0	
B04-34	CON	T LIMPIAR EL FONDO HORNO	WASHINGTON.	05AUG	96 06AUG					A. A.
B04-36	CON	T INSTALAR ANDAMIOS DENTRO DE LA CALDERA	-						1	
B04-42		T LAVAR A PRESION WATER WALLS	- 0	317100				.		
ABAJO	SSOB	RECALENTADOR		12.00	194008	96 10	0 1		_	
B14-00		L TRABAJO EN AREA SOBRECALENTADOR BAJA TEMP.	10	П		140	0		.	
B14-02	APC	L REP. SOPORTES SOBRECALENTADOR BAJA TEMP.	0	19AUG	8 12SEP9	6 10				3
CONOM	-			10000	123518	10	0 4		_	
B18-02	APC	L INSTALACION DE "VIBRATION BAFFLE" NUEVOS	0	26AUGS	6 13SEP9	6 10	-			
RABAJO	SPRE	CALENTADOR			TOOLIS	0 10	-	E SALE	_	
822-04	APC	L ABRIR PUERTAS PRECALENTADORES 10-1	0	08AUGS	6 09AUG9	6 10				
B22-06	APC	REMOVER PUERTAS	0	14AUG9				i i		1
B22-08	APC	REMOVER SELLOS	0		6 13AUG9	1				
B22-10	APC	REMOVER LOS SOPLETES DE VAPOR	0	22AUG9						
322-12	APCI		0		6 23AUG9	- 1	_		1	
322-32	APCI		0	06SEP9		1	-	7		
322-34	APCI		0			-		A		
322-36	APCI		0	27AUG9		1	_			
322-44	APCL		0	27AUG9		1.00	4 _			
322-68	APCL			19AUG9						
322-86	APCL		0	21AUG9			Z	T		
322-88	APCL		0	02SEP90				AN		
22-90		INST. SOPORTE CANASTO	0	23SEP96		1		4		
22-92	1	INST. WASHING DEVICE	0	05SEP94	1.502.00	1				
22-94		INST.SOPLETES RETRACTABLES	0	23SEP94		100		1		
22-96		CERRAR PUERTAS	0	20AUG94			R	7		
			0	02OCT96	07OCT98	100				T
23-04		ALENTADOR 10-2 ABRIR PUERTAS PRECALENTADOR 10-2		T ======					T	1
23-06	APCL	The state of the s	0	08AUG96		100	Z	Ī	1	
23-08	APCL	1	0	13AUG96		1	M			
23-10	APCL	REMOVER LOS SOPLETES DE VAPOR	0	09AUG96	1.0000	100				
23-12	APCL		0	20AUG96		100	M			
23-32			0	15AUG96	26AUG96	100		7		
23-34		MANTENIMIENTO WASHING DV.	0	15AUG96	25SEP96	100		and the same	/	1
		REPARACION DEL CASING	0	26AUG96	05SEP96	100	A			
		REP. DEL EMBUDO	0	26AUG98	05SEP96	100	. 4			
		REM-MANTENIMIENTO TRANSMISION	0	20AUG98	22AUG98	100	M			
		INTALAR TRANSMISION	0	22AUG96	23AUG96	100	H		1	
		INST. CANASTOS	0	04SEP96	13SEP96	100			+	+
		INST. SELLOS AXIALES	0	23SEP96	27SEP98	100		A	7	
		INST. SOPORTE CANASTO	0	05SEP96	13SEP98.	100		MI		
		INST. WASHING DEVICE	0	23SEP96	27SEP96	100		A		
		INST.SOPLETES RETRACTABLES	0	21AUG98	24AUG96	100				
		CERRAR PUERTAS	0	01OCT96	07OCT96	100			ANI	
		DORES CALDERA								+
		SOPLADORES DE VAPOR-CALDERA	0		T	100				A
	-	REPARACION-MANTENIMIENTO SOPLADORES VAPOR	0	12AUG96	26SEP96	100	F	and the said		
		PRUEBA DE SOPLADORES	0	30SEP96	010CT96	100		1	7	
BAJO QI						+			-	+
		QUEMADORES	0		T	100			3	N N
		REMOVER Y ASEGURAR INSTRUMENTACION NEUMATICA	0	08AUG98	09AUG96	100	7			
3-04	PLIE	REMOVER Y ASEGURAR INSTRUMENTACION ELECTRONICA	0	08AUG98	09AUG98	100	7			
1-08 A	APCL I	REMOVER CUBIERTAS Y MECANISMO QUEMADORES	0	08AUG98			W			1
1-10 A	APCL I	REM-INST NUZZLE AIRE NECESARIOS.	0			100				1
-14 A	PCL !	NST. QUEMADORES NUEVOS	-			100				+
1-18 A	DC1	ALINEACION DE QUEMADORES	-			100	A	. 1		

Activity IC	ARE	Activity Description	Res		. Emy	1	1		
B28-18	2		Du	21AUG9	Finish 8 16AUGS	-	100000000000000000000000000000000000000	SEP	202
B28-20	APC		0	26AUG9					
B28-22	APC		0						
28-26	APC		-	14AUG9		- 1			
B28-28			0	22AUG9		-			
B28-30		INST. Y CALIBRAR MECANISMO QUEMADORES	0	03SEP90	1.000.0				
B28-40			0	20AUG90					
CAMBIO			0	16SEP96	17SEP9	100		X	
B29-00		CAMBIO DE TUBERIA EN AREA CALDERA							
B29-02	APCI		0			100			X
B29-12	APCL		0	19AUG96	20SEP96	100	A SECOND	No. to	
B29-14			0	19AUG96		100	Appen .		1.
829-16	APCL	The state of the s	0	07AUG96	16AUG9	100			
		REMOVER TUBERIA DEL VESTIBULO	0	12AUG96	15AUG96	100	M		
B29-18	APCL	THE PROPERTY OF THE PROPERTY O	0	15AUG96	21AUG96	100	20		
B29-20	APCL		0	12AUG96	28AUG96	100			
B29-22	-	INTALAR REFRACTARIO CUBIERTA Y AISLACION	0	18SEP96	26SEP96	100	1	Apple 1	
	The same of the sa	ALVULAS SEGURIDAD	1				-		+
830-00	APCL	MANTENIMIENTO VALVULAS DE SEGURIDAD	0		T	100			X
B30-02	APCL	THE THE STATE OF STATE OF SALDERAN	0	13AUG96	20SEP96	100	Amount	See Cy	I TI
B30-04	APCL	MANT. VALV. SEGURIDAD SOBRECALENTADOR ALTA TEMP.	0	16SEP96	30SEP96	100		A STATE OF	
B30-06	APCL	MANT. VALV. SEGURIDAD CALENTADOR DE ALTA TEMP.	0	17SEP96	20SEP98	-		N N	
B30-08	APCL	MANT. VALV. SEGURIDAD RECALENTADOR DE BAJA TEMP.	0	16SEP96	19SEP96	1			
B30-10	APCL	CALIBRAR VAL. SEGURIDAD SEGUN ESPECIFICACIONES	0	14OCT96	150CT96	1			
MANT. VA	LVULAS	SECUNDARIAS		1400130	1300136	100			2
B32-00	APCL		0			100			
932-02	APCL	EMPAQUETAR LAS VAVULAS DE TRONCO Y SECUNDARIAS	0	16SEP96	05OCT96	1			
32-04	APCL	INSPECCION Y MANT. VALVULAS BLOW DOWN	0	23SEP96	06OCT96	100	l	- Allerton	
B32-06	APCL	CAMBIAR VALVULAS DEFECTUOSAS	0	23SEP96		100			
B32-10	APCL	REPARAR PUERTAS DE ENTRADA A LA CALDERA	0		27SEP96	100		A	
REPARAC	ION COM	L	U	23SEP96	27SEP98	100			
B36-00		REPARACION CONDUCTOS EMBUDOS Y DAMPERS	0				l		
B36-02		PREPARATIVOS PARA REPARARCONDUCTOS		40.111000	******	100			2
B36-04	_	REPARAR CONDUCTOS ENTRADA DE GASES 10-1	0	19AUG96		100			
B36-06	1	REPARAR CONDUCTOS ENTRADA DE GASES 10-2	0	19AUG96		100			
B36-08		REPARAR CONDUCTO DE SALIDA DE AIRE.	0	19AUG96		100		7	
B36-20		REPARACION CONDUCTOS SUCCION Y DESCARGA GRE	0	21AUG96	05SEP96	100	A STATE OF THE PARTY OF THE PAR	7	
B36-22		REPARAR DAMPERS SEGUN SEA NECESARIO	0	15AUG96	26SEP96	190		STATE OF	
B36-24			0	19SEP96	30SEP96	100		April 1	'
		SUAVIZAR Y LUBRICAR TODOS LOS DAMPERS	0	19SEP96	30SEP96	100	İ	April 1	'
B38-00		JUNTAS EXPANSIONES							
B38-02		200 Sp. Sp. Sp. Sp. Sp. Sp. Sp. Sp. Sp. Sp.	0			100			X
		INSPREPARAR JUNTAS EXPANSIONES	0		26SEP96	100	A COURSE		
B38-04		CAMBIAR JUNTA EXPANSION SALIDA ECONOMISER	0	21AUG96	30AUG96	100			
B38-06		REPARAR JUNTAS DE ESPANCION	0	26AUG96	23SEP96	100			
ECHO CAI							Ī		-++
B42-00		TECHO DE CALDERA	0	. [100	į		X
B42-02		INSPECCION TECHO CALDERA-INST.ESCALERA	0	13AUG98	16AUG96	100			
		REEMPLAZAR ESTRUCTURA INSERVIBLE	0			100			X
		REPARAR LA ESTRUCTURA AVERIADA	0			100			X X X
B42-14	APCL	SOLDAR CASING DE LOS LATERALES	0			100			X
	ETO HA					-		-	-++
		MANTENIMIENTO Y CALIBRACION DE HANGERS	0	1	12OCT96	100			9
B48-04	APCL	REP. CALIBRAR SOPORTES MAIN STEAM	0	16SEP98 (3OCT98	100	1	APPEND	,
		COLORD OLL IN CONCERN LIGHT DELICATE	-				1		
B48-06	APCL	SEPARAR CALIB. SOPRTES HOT REHEAT	0	16SEP96 (30CT98	100		A STATE OF	

Activity	ARE	Activity Devoription		m Emy	Early		G I	700g			
B48-10		L REP. CALIB. SOPORTES LINEAS AUXILIARES	and the real	U Store	AND ASSESSED OF THE PARTY OF TH		100000	OG. L.E		38.04 688	
PRUEBAS				LUGER	96 07OCT	86 1	100			7	
B85-10		L INSP. TUBERIA RETORNO Y CABEZAL TAMBOR DE LODO	1	010CT	00000	00 1				١.	
85-12		L PRUEBA HYDROSTATICA PRELIMINAR	-	310011		-	00	į	4	/	
B85-14	APC		-	1.10011		-	00	I		M	
PRUEBA I	HIDROS		0	140CT	150CT	96 1	00			Z	
B90-02		PRUEBA HYDROSTATICA FINAL									
B90-04	_	REP.ESCAPES TUBERIA-PRUEBA AIRE	0	200011		95 1	00			A	7
B90-06	_	CERRAR PUERTAS DE LA CALDERA	0	140CT9	6 15OCT	96 1	00	į		图	
B90-08	_		0	21OCT9	6 22OCTS	96 1	00			À	7
		ARRANQUE DE LA CALDERA	8	310CT9	6 310CTS	96	0				X
	-	L MUD DRUM					-		-	+	
829-30	-	REMOCION REFRACTARIO MUD DRUM	0	03SEP9	6 04SEPS	6 10	00	W			
B29-32	APC	THE POST OF THE PROPERTY OF TH	0	04SEP9	6 OSEPS	8 10	00	19	1		
B29-34		REMOCION AISLACION LATERALES DOG HOUSE	0	04SEP9			00	267			
B29-36	APC1	PULIR SUPERFICIE MUD DRUM	0	16SEP96				2000	7		į
B29-38	APCL	PRECALENTADO Y REALIZAR SOLDADURAS DEL MUD DRU	M 0	198EP96							
B29-40	APCL	RELEVO DE ESFUERZO	0	10OCT96							_
B29-42	APCL	INSTALACION TOLA EN EL PISO	0	03OCT96				l	A		-
B29-44	APCL	INSTALACION REFRACTARIO PISO	0								-
B29-46	APCL		-	07OCT96		1.0		İ	A		
B29-48	APCL	INSTALACION AISLACION LATERALES	0	09OCT96			0		A	7	
B29-50	1	INSTALACION REFRACTARIO CURVAS MUD DRUM	21	22OCT96		8 0		l		A	1
UBRICAC			14	22OCT98	23OCT9	6 0				A	T
E02-00		SISTEMA LUBRICACION TURBINA								1	Ť
E02-02		DESCONECTAR MOTOR AC # 10-1	0	22OCT96	210CT94	0				立	-
F02-04			0	05AUG96	05AUG96	100	X	į			
72-06		LIMPIAR MOTOR AC # 10-1	0	04SEP96	04SEP96	100	0	X			
- 1		CONECTAR MOTOR	0	14OCT96	140CT96	100)		1	Z	
≥02-08		DESCONECTAR MOTOR AC # 10-2	0	05AUG96	05AUG96	100	K	l			
E02-10	ELEC	LIMPIAR MOTOR AC # 10-2	0	09AUG96	09AUG96	100	X	+	+-	+	+
E02-12	ELEC	CONECTAR MOTOR AC #10-2	0	140CT96	15OCT96	100			,	R	
		DESCONECTA MOTOR DC	0	05AUG96	05AUG98				1		
E02-18	ELEC	DESC. MOTOR EXTRACTOR DE GASES	0	05AUG98		1					
E02-20	ELEC	MANT. MOTOR EXTRACTOR DE GASES	0	10AUG96		-	TE	l			
E02-22	ELEC	CONEC.MOTOR EXTRACTOR DE GASES	0		14OCT96					1	L
		DESC. MOTOR BOMBA ACONDICIONADORA BOWSER	0	05AUG98	1	-	Τ.		1	4	
		MANT. MOTOR BOMBA ACONDICIONADORA BOWSER	0			1	Γ.	.			
		CONEC. MOTOR Y BOMBA ACONDICIONADORA DE BOWSER			21AUG96						
		MANT. MACNETICO AL MOTOR D.C.	0	14OCT96		100	1		A		
		MANT. PANEL DE INTERRUPTORES EN M.O.T.	0		10AUG98	100	X				
		TERO TURBINA	0	22AUG98	22AUG96	100	1				П
		PEDESTAL DELANTERO DE LA TURBINA								11	
		ERO DE LA TURBINA	0			100				Z	
		MANT. INTERRUPTORES LIMITE VALVULAS DE ADMISION								11	
			0		27AUG96	100	1	K.			
		REPARACION CONDUCTOS, CAJAS CONEXION Y TUBERIA			09OCT96	100		ĺ	M		
		LIMPIEZA AREA PEDESTAL DELANTERO	0	22AUG96	22AUG96	100	M	7			
-		CALIBRACION Y MANTENIMIENTO INTERRUPTORES	0	08OCT96	09OCT96	100			M		
		NSP. OPERACION BLOW DOWN VALV.	14	22OCT96	23OCT98	0	8		1	7	
		CALIBRACION VALVULAS DE TURBINA	22	16OCT98	25OCT96	20		1		1 .	
The second second		DESCONECTAR MOTOR GIRO LENTO	0	12AUG98		100	X				
4-18 E	LEC C	CONECTAR MOTOR GIRO LENTO	-		21AUG98	100	×				
	LEC I	MANT. CALIB. INSTRUMENTACION FRONT STAND			20SEP96	100	-	M			
4-19 E						100		: MM	1 /		
		DESCONECTAR PMG	0	ZZALIGOR I	ZZALICOA	100	70				
04-20 E	LEC I	DESCONECTAR PMG				100		1			

Activity ID	AREA	Activity Description	Per	Entre Sent	Esty		6 i j	110	E" 481		
SISTEMA	TA TOTAL STATE	HIDRAULICO	N. Alle IV		Philip			MACA!	CV658/L		100
E06-00	ELEC	SISTEMA SERVO-HIDRAULICO	0	1	T	10	0			,	7
€06-02	ELEC	DESCONECTAR MOTOR FEFE	0	05AUG9	05AUG9	-				,	
06-04	ELEC	LIMPIAR MOTOR FEFE	0	07AUG9							
E06-06	ELEC	CONECTAR MOTOR FEFE	0	05AUG9							
E06-08	ELEC	DESCONECTA MOTOR TAFU	0	05AUG9							
E06-10	ELEC	LIMPIAR MOTOR TAFU	0	07AUG96		-					
E06-12	ELEC	CONECTAR MOTOR TAFU	0	19AUG96			_	207			
E06-14	ELEC		0	05AUG96				X			
E06-16	ELEC		-			-					
E06-18	ELEC	Control of the contro	0	07AUG96		1	\neg				-
E06-20	ELEC		0	20AUG96		1.	0	Z			-
E06-22	ELEC		0	03SEP96			0	-	X		
			0	05SEP98		100	0		X		
E06-24	ELEC	CONECTAR MOTOR SERVO #2	0	20AUG96	20AUG96	100	0	置			-
E06-26	ELEC	THE STATE OF TEMP SERVICE OF THE PRODUCTION	0	07AUG96	08AUG94	104) M				
RABAJO E08-00	1						T				T
	ELEC		0			100)			1 4	7
E08-02	ELEC	MANT. INTERRUPTORES DE CAMPO	0	08AUG96	09AUG96	100				1 1	
E08-04	ELEC	INSP. MANTENIMIENTO MOT. DE ENFRIAMIENTO	0	07AUG96	09AUG96	100				1 1	
E08-06	ELEC	MANTENIMIENTA A CONTACTORES	0	07AUG98	09AUG96	100	M				
E08-08	ELEC	INSP. Y MANT. GAVETAS DE POTENCIA	0	07AUG96	09AUG96	100	M	i		1 1	
E08-10	ELEC	VERIFICAR CONEXIONES PRINCIPALES	0	07AUG96	09AUG96	100		\dashv		+	+
E08-12	ELEC	INSP. DE MODULOS	0	05SEP96	05SEP98	100	1	b	K		
E08-14	ELEC	INSP. DE RELES AUXILIARES	0	05SEP%	05SEP96	100		1	K		
E08-16	ELEC	INSP. FUSIBLE Y CONEXIONES DE CONTROL	0	05SEP96	05SEP98	100		1	Z		
'08-18	ELEC	LIMPIEZA DEL GABINETE	0	07AUG96	09AUG96	100		1	_		
38-20	ELEC	MANT. INTERRUPTORES DE RESGUARDO DEL CAMPO	0	16SEP96	17SEP98	100			Z	+	+
E08-22	ELEC	ALAMBRAR NUEVAS ALARMAS	0	14OCT96	18OCT96	100	4	ı	A	-	
RABAJOS	GENER	RADOR		1400180	1000130	100	-			25	1
E10-00		GENERADOR	0	22OCT96	210CT96	0	-			X	
E10-02	ELEC	DES. GENERADOR	0	08AUG98	08AUG96	100	207			1	
E10-04	ELEC	CONECTAR GENERADOR	21	22OCT96	24OCT96	-	-				,
E10-06		DESC. NEUTRAL DEL G.	0	08AUG96		0	-			N N	
E10-08		CONEC. NEUTRAL DEL G.	-			100					1
E10-10		DESC. PORTA ESCOBILLAS	0		08AUG96	100	X .				
E10-12		CONEC. PORTA ESCOBILLAS	0	18SEP96	17SEP96	100		i	X		
E10-14		INSP. MANT. Y PRUEBAS P.P. T	8	22OCT96	23OCT96	0				N A	-
E10-16			0	29AUG96	18SEP96	100		A. T.	TORRE!		
	70 -	INSP. MANT. Y PRUEBAS P.T.	0	18SEP96	20SEP98	100			M		
E10-18		MANT. Y PRUEBA TRANSFORMADOR DE TIERRA	0	09OCT96	09OCT96	100				X	-
E10-24	ELEC	MANT. ANILLOS COLECTORES Y PORTA ESCOBILLAS	0	07AUG96	09AUG96	100	W				T
ABAJOS											T
E12-00		CONDENSADOR	0	22OCT96	21OCT98	0	1			X	
E12-02	ELEC	MANT. SIST. HIDRAULICO CAMBIO COMP. CONDENSADOR	0	12AUG96	12AUG98	100	K				
12-04	ELEC	MANT. SISTEMA PROTECCION CATODICA	6	12AUG96	22OCT96	90	1	Name of Street	TEACHER SHEET	THE PARTY	-
12-06	ELEC	VERIFICAR OPERACIONES VACUUM BKR.	0	1SAUG96	16AUG96	100	X			- 1	
ABAJOS	BOMBA	VACIO	-					\neg			T
14-00	ELEC	BOMBAS DE VACIO	0	T	T	100		1		¥	-
14-02	ELEC	DESC. MOTOR BOMBA VACIO 10-1	0	05AUG96	05AUG96	100	K	1			***************************************
14-04	ELEC I	MANT. MOTOR BOMBA VACIO 10-1	0	3AUG96	18AUG98	100	H				-
14-06	ELEC (CONEC. MOTOR BOMBA VACIO 10-1	0	16SEP96	16SEP98	100			M		
14-08	ELEC I	DESC. MOTOR BOMBA VACIO 2	0		08AUG96	100	V	ì			-
	E1 EC	MANT. MOTOR BOMBA VACIO 2				100				-+	-
14-10	ELEC IS					100					
		CONEC, MOTOR BOMBA VACIO 2				100	ALL	l	M		

Activity 10	AREA	Descripting	Per Du	Name of the second second				18.63	1 20	"T 7	()
E14-16	ELEC		0	16AUG96	200	3 10	******				7
E14-18	ELEC	CONEC. MOTOR BOMBA SELLO 1	0	03SEP96	03SEP96			MESSA	W		
514-20	ELEC	DESC. MOTOR BOMBA SELLO 2	0	17SEP96						-	+
£14-22	ELEC	MANT. MOTOR BOMBA SELLO 2	0	14AUG96		-		M			
E14-24	ELEC	CONEC. MOTOR BOMBA SELLO 2	0	04SEP96			_	LORA!	NO.		1
RABAJO	S BOME	BA CONDESADO		0405120	WWO EPSE	10	0		X	-	1
E16-00	ELEC		0	T	Т	10	0				1
E16-02	ELEC	DESC. MOTOR BOMBA DE CONDENSADO 10-1	0	04SEP98	04SEP96	-					N
E16-04	ELEC		0	07AUG98	08AUG96	1		e	X		
E16-06	ELEC		0	26SEP98	26SEP96	1.0			,		1
E16-08	ELEC		0	05SEP96		1.5				K	1
E16-10	ELEC		-		05SEP96	-			A		
E16-12	ELEC		0	07AUG96	07AUG96	1.			_		
STEMA :			0	26SEP96	26SEP96	104	0		2		1
E18-00		SISTEMA DE SOPLADO	10	3300704	242277						I
E18-02	ELEC		0	22OCT96	21OCT96	1	_		<u> </u>		X
E18-04	ELEC		0	23SEP96	26SEP98	1				1_	
E18-06	ELEC		0	10OCT96	14OCT96	1				M	
E18-08	ELEC		0	23SEP96	25SEP96	1			1		1
LENTAL		1	0	16SEP96	19OCT96	100)		A SECTION AND A	Senante S	1
E20-00	ELEC		1 4								
20-02	ELEC		0			100				1	7
20-04	ELEC		0	05AUG96	05AUG96	1					
20-06	ELEC	The state of the s	0	17AUG96	17AUG98	100		Z			
20-08	ELEC	CONECT.MOTOR PRECALENT-AIRE 1	0	16SEP96	16SEP96	100			M		
20-10		DESC.MOTOR PRECALENT-AIRE 10-2	0	05AUG96	05AUG96	100	K				
	ELEC	MANT.MOTOR PRECALENT-AIRE 2	0	21AUG96	21AUG96	100		X			Г
20-12	ELEC	CONECT.MOTOR PRECALENT-AIRE 2	0	16SEP96	17SEP96	100		l	X		
	ELEC	DESCONECTR MOTOR COJINETE GUIA #1	0	21AUG96	21AUG96	100		X			
20-16	ELEC	LIMPIAR MOTOR COJINETE GUIA #1	0	21AUG96	21AUG96	100	7	X			
20-18		CONECTAR MOTOR COJINETE GUIA #1	0	22AUG96	22AUG96	100	1	X			
20-20		DESCONECTAR MOTOR COJINETE GULA #2	0	21AUG98	21AUG96	100	1	X			
20-22		LIMPIAR MOTOR COJIENTE GUIA #2	0	21AUG96	21AUG96	100	1	X			
20-24	and the second s	CONECTAR MOTOR COJINETE GUIA #2	0	22AUG96	22AUG96	100	1	X			
20-26		DESCONECTAR MOTOR COJINETE DE EMPUJE #1	0	17SEP96	17SEP96	100	1	1	X		
20-28	ELEC	LIMPIAR MOTOR COJINETE DE EMPUJE #1	0	04SEP96	04SEP98	100	1	5	X		
20-30	ELEC	CONECTAR MOTOR COJINETE DE EMPUJE #1	0	19SEP96	20SEP96	100	+	-	X	-	
20-32	ELEC	DESCONECTAR MOTOR COJINETE DE EMPUJE #2	0	05SEP96	05SEP96	100	1)		-	
20-34	ELEC	CONECTAR MOTOR COJINETE DE EMPUJE #2	0	20SEP96	21SEP96	100	1	Ī	X		
20-36	ELEC	LIMPIAR MOTOR COJINETE DE EMPUJE #2	0		22AUG96	100	+	x	_	1	i
20-40	ELEC	TERMOPROBE MANTENIMIENTO Y PRUEBAS	0		11OCT96	100	1	_	- 1	I	-
ARTO IN	TERRU	PTORES			1100100	100	-	\dashv		-	-
35-00	ELEC	CUARTO DE INTERRUPTORES	0			100	1			X	,
35-02	ELEC	MANT.MAGNETICOS 480V.	3	28AUG96	29AUG96	100	1	Z		-	-
35-04	ELEC .	36-82TRANSF.NORMAL 4160/480	-		8SEP98	100		Appendix	way		
5-06	ELEC	MANT.TRANSF.NORMAL INSTR.Y SUS INTERRUPTORES				100			_		
		MANT.INTERRUPTOR TRANSF. POTENCIA INSTRU.				100				1	
IPOS AL					JOEF 36	100		_	Z		1
		EQUIPOS AUXILIARES	0	22OCT96 2	10CT96	0		-		1	***************************************
8-02	ELEC I	DESCONECTAR MOTOR RASTREADOR #1				100	7			X	***************************************
		MANT.MOTOR RASTREADOR #1					×				-
		CONECTAR MOTOR RASTREADOR #1				100	_			X	-
		DESCONECTAR MOTOR RASTREADOR #2					w			_	-
		MANT.MOTOR RASTREADOR #2				100	a All	_		-	+
8-10		THE PARTY OF THE P									

Activity	1	Activity s	a i P		iberty	Emp		onine.	80 m		12100000	
E36-14	. AREA		t	KF.	State +	A Prints	0.					8 9 4 9 3
E36-20	ELEC	THE PROPERTY OF THE PROPERTY O			12AUG94		6 10	00	M	- Anna	200	200000000000000000000000000000000000000
E36-26	ELEC				12AUG96		8 10	06	N			
		The October 1910 Annual Control of the Property of the Propert	- 1		03SEP96		8 10	00		M		11
₹36-34	ELEC	Se odravia i ovivania i ovivano se	1	0 0	05AUG96	05AUG9	8 10	0		1	+	11
E36-42	ELEC	The same of the sa	(0 0	35AUG96	05AUG9	6 10	OK				
E36-44	ELEC	The state of the s	(0	DISEP96	05SEP94	10	10		N		
E36-46	ELEC		(0	05SEP96	05SEP96	10	10				
E36-48	ELEC	THE THE TOTAL PRINTED INCOMOLOGICA	0) 1	ISSEP96	23SEP96	10	0		A	7	
E36-50	ELEC		0	0	5AUG96	05AUG9	10	0 (1	+	+
E36-52	ELEC		0	1	4AUG96	21AUG94	10	0				
E36-54	ELEC		0	1	4AUG96	03SEP98	10	0	A STATE OF	W.		
E36-56	ELEC		0	1	2AUG96	12AUG96	10	0 1	K			
E36-58	ELEC		0	0	SEP96	03SEP98	10	0		夏		
E36-60	ELEC	The state of the s	0	1.	4AUG96	04SEP98	10	0	A STATE OF THE PARTY OF THE PAR	1	+	++
E36-62	ELEC		0	1	4AUG96	03SEP96	100	-	Avara			
E36-64	ELEC	CONECTAR BFWP 2	0	0:	3SEP96	03SEP98				W	1	
E36-74	ELEC	DESC.MOTOR BFWPP AUX OIL PP #1	0	04	8AUG96	08AUG96						
E36-76	ELEC	MANT.MOTOR BFWPP AUX. OIL PP #1	0	21	1AUG96	21AUG98	100	5	区			
E36-78	ELEC	CONECT.MOTOR BFWPP AUX OIL PP #1	0	25	5SEP96	25SEP96				<u> </u>	7	++
E36-80	ELEC	DESC.MOTOR BFWP AUX.OIL PUMP 10-2	0	30	BAUG96	08AUG96		N		-		
E36-82	ELEC	MANT.MOTOR BFWP AUX.OIL PUMP 2	0	25	SSEP96	27SEP96	100	\bot			5	
E36-84	ELEC	CONECT.MOTOR BFWP AUX.OIL PUMP 2	0	25	SEP96	27SEP96	100	_		1		
BOMBAS								+			+	++
E44-00		BOMBAS COMBUSTIBLE	0	T			100	1				X
E44-02	ELEC	DESC.MOTOR BOMBA COMBUSTIBLE 10-1	0	05	AUG98	05AUG96	100	K				T
E44-04	ELEC	The state of the s	0	09	AUG96	09AUG96	100	M				
44-06	-	CONECT. MOTOR BOMBA COMBUSTIBLE 1	0	27	AUG96	27AUG96	100	1	X			
E44-08	-	DESC. MOTOR BOMBA COMBUSTIBLE 2	0	06	AUG96	06AUG96	100	K				
E44-10	1	MANT.MOTOR BOMBA COMBUSTIBLE 2	0	09	AUG96	09AUG96	100	X			+-	+
E44-12		CONECT.MTR.BOMBA COMBUSTIBLE 2	0	27.	AUG96	27AUG98	100	1	K			
E44-14	1	VERIF.CALENTADORES/MOTORES	9	16	SEP96	17SEP96	100	1		I		
TORRE DE								+	-			
E46-00		TORRE DE ENFRIAMIENTO	0	220	OCT96	21OCT96	0	1				X
E46-02		DESC.MTR.ABANICO TORRE	0	05	AUG96	05AUG98	100	X .	I			
E46-04		MANT.MTR.ABANICO TORRE	0	25	SEP96	25SEP96	100	1	I	X		
E46-06		CONECT.MTR.ABANICO TORRE	8	220	OCT96	23OCT96	0	1			1	Z
E46-08		DESC.MTR.BOMBA ENFRIAMIENTO 10-1	0	035	SEP96	03SEP96	100	1	Ì	K		
E46-10		MANT.MTR.BOMBA ENFRIAMIENTO 1	0	104	AUG96	10AUG98	100	X	\dashv			
E46-12		CONECT.MTR.BOMBA ENFRIAMIENTO 1	0	195	SEP96	20SEP98	100		I	H		
E46-14		DESC.MTR.BOMBA ENFRIAMIENTO 10-2	0	045	SEP96	MSEP96	100		2			
E46-16		MANT.MTR.BOMBA ENFRIAMIENTO 2	0	053	SEP96	15SEP98	100		7	K		
E46-18		CONECT.MTR.BOMBA ENFRIAMIENTO 2	0	27A	UG96 2	8AUG96	100		X	1		
E46-20		PRUEBA DISPARO VIBRACIONES	8	230	CT96 2	40CT96	0		+		- 1	7
ALVULAS									\top		-	
		/ALVULAS MOTORIZADAS	0	220		10CT96	0		1		2	X
		CALB. DESCARGA BF.WPP 1	0	A80	UG96 0	8AUG96	100	区				
		CALIBRAR DESCARGA BFWPP 2	0	08A	UG98 0	8AUG96	100	置	-			
		ALIB.DESCARGA CWPP 1	0	A80	UG98 0	8AUG96	100	X				
		DESC.BOILER LEAD	0	08A	UG96 0	8AUG96	100	K				
		IANT.BOILER LEAD	. 0	043	EP96 0	4SEP96	100		W			
		ONECT.BOILER LEAD	0	12A	UG96 1	2AUG96	100	X			1	
		ALIB.BOILER LEAD	0	140	CT98 1	5OCT98 1	100		1		M	
	I	ALIB.VALV BY-PASS DESAEREADOR	0	3038	EP96 0	1OCT98 1	100			A CONTRACTOR		
E48-56	ELEC C	ALIB.VALV SECCIONAL CWP 1	0	058	EP96 0	SEP98 1	100		×			

Acovity #J	ARE	Activity 1945 A	Į P	err Enty	Ess					
E48-66	Carlot Marian		exercise and a second	3936	Firm		10 (18 cm)		37	
E48-68				0 24SEP			9	1		
E48-70				0 24SEP			0	4		
E48-72				0 24SEP		100)	A	9	
E48-78				0 24SEP	6 27SEP9	100)	1		
E48-80		The state of the s		0 05SEPS	05SEP9	5 100)	X		
E48-82		The state of the s	- (05SEP	8 05SEP9	6 100		X		
E48-84		THE THE PROPERTY OF THE PARTY O	(19AUGS	8 20AUG9	6 100				
E48-86		The state of the s	(19AUGS	6 20AUG9	6 100	Z			
E48-88	ELEC		0	06SEP9	6 OGSEP9	6 100		X		
	ELEC		0	19AUG9	6 19AUG9	6 100	X			
E48-90	ELEC		0	19AUGS	6 20AUG9	6 100	1	T T		
E48-92	ELEC	The state of the s	0	19AUG9	6 20AUG9	6 100	R			
E48-94	ELEC		0	19AUG9	6 20AUG9	8 100	Z	İ		
E48-96	ELEC	The state of the s	0	19AUG9	6 20AUG9	8 100	N			
1		PR DE POTENCIA				-		1		
E50-00	-	TRANSFORMADO PRINCIPAL DE POTENCIA	0	22OCT9	8 21OCT9	8 0	1		X	
E50-02	ELEC	The state of the s	9	163EP9	23SEP94	100	1	201		
E50-04	ELEC	The state of the s	0	100CT9	100CT94	100			X	
E50-06	ELEC	The state of the s	1	10OCT9	22OCT96	90	1			
E50-08		INSP. BLOQUES DE TERMINALES Y CONEXIONES	0	110CT9	110CT96	100	1		X	
E50-10		ALARMAS	8	22OCT9	23OCT96	0			X	
E50-12	ELEC	The state of the s	35	22OCT9	28OCT96	0	1 .		N	
TRABAJO	1									
E52-00		TRABAJOS GENERALES	0	22OCT96	210CT96	0	1		**	
E52-02		INSP-REP.CAJA CONEXIONES	0	21AUG94	21AUG96	100	×			
E52-04	-	INSP. PANELES ALARMA CONSOLA Y CUARTO ELEC.	0	140CT96	20OCT98	100	1		M	
52-06	ELEC		32	22OCT96	26OCT96	0			M	
E52-08	ELEC	CONEXION EQUIPOS A OTRAS SECCIONES	0	07AUG98	22AUG96	100				
E52-10	-	DESCON.EQUIPOS A OTRAS SECC.	0	08AUG96	17OCT96	100		THE REAL PROPERTY.	mark/	
E52-12	ELEC	MANTENIMIENTO A CONSOLA DE CONTROLES	0	19AUG96	20AUG96	100	夏			
E52-14	ELEC	ALUMBRADO DE CALDERA	0	19AUG96	23AUG96	100	Ø			
TRIFECTA E54-00	Andrew Comment	PROVESTOR BARA WATERWAY				•				
E54-00		PROYECTOS PARA INSTRUMENTACION	0			100			X	
E54-04		INST.ELECTRICA SOLENCIDE ATEMPERADORES	0	24AUG96	26AUG96	100	M			1
E54-06		INST.ELECTRICA SENSOR NIVEL M.O.T.	0	16SEP96	20SEP96	100	i			
E54-08		INST.ELECTRICA HYDROSTEP CALENTADORES AGUA	0	17SEP96	19SEP96	100	1	M		
E54-10		INST.ELECTR. ANALIZADORES DE OXIGENO INST.ELECTRICA VISCOSIMETRO	0	16OCT96	21SEP96	100				
E54-12			0	12AUG96	12AUG98	100				
E54-14		INST.ELECTRICA SENSORES TEMP.BRGS.TURBINA	0	17SEP96	19SEP96	100	1			
		INST. ELECT. VALVULAS TRIFECTAS	0	04SEP96	28SEP96	100	4	garant,		
E54-13		INSTRUMENTACION FACE 1 INT. ELECTRICA ESQ. 1-2		T = = = = =						
NUEVOS P			0	02SEP96	13SEP96	100				
E56-00		NUEVOS PROYECTOS	10							
E58-04		RE-ALAMBRADO VALV.TURBINA	0	****		100			翠	
E56-12		RECONSTR.J.B.SOLENOIDE ABANICOS	0	30SEP98	02OCT96	100	_			1
E56-18		INST. ELECT. NUEVOS SOPLETES A.H.	0		17AUG98	100	X	_		
TERRENOS				17SEP96	20SEP96	100		M		
ET5-00		TERRENOS Y EXTRUCTURAS	0	22OCT96	2100700	_				
T5-02		LIMPIEZA DE CONDENSADOR	21	22OCT96	210CT96 240CT98	0			X	
_T5-04		PRUEBA DE URANINE	1			0				1
ET5-05		LIMPIEZA TORRE ENFRIAMIENTO (BASING)	12	22OCT96	23OCT96	0	<u> </u> _	.	No.	
ET5-06		LIMPIEZA TORRE ENFRIAMIENTO (BASSING)	0	03SEP96	06SEP96	100	-			
			28		25OCT96	60		A	7	
ET5-08	PLIE	LIMPIEZA PINTURA DEL TANQUE PRINCIPA Y AREAS TUR	24	22OCT98	25OCT96	0			A	1

ACIMITY IEI	AREA	Addity Descriptore	F e		Earne Policie				C	
ET5-10	PLTE		24		The second secon		TO CO STATE			322
ET5-12	PLTE	LIMPIEZA AREA QUEMADORES	16							4
ET5-14	PLTE	LIMPIEZA STEAM COILS	32			_			1.	- 2
3T5-16	PLTE	LIMPIEZA TRAVELLING SCREENS	0	09SEP96			_	400		4
ET5-18	PLTE	LIMPIEZA CUARTO DE MAQUINA BOMBAS (PINTAR)	64			-				
ET5-20	PLTE	AISLAR-REDUCING STATION-CALENTADOR H20	24					-		
TEMPER		SOBRECALENTADOR		19-36-7-90	250018	6 40		4		
100-00	PLIE		0	22OCT96	210CT9	9 6	-			1
100-02	PLIE		0	27AUG96		-	. ,			X
100-04	PLIE		0	03SEP96			_	×		1
100-06	PLIE		0	30AUG96				M		
100-08	PLIE		0					AT .		
100-10	PLIE		-	18SEP96	05OCT96		1	4		1
STEMA		OL DE PETROLEO	0	18SEP96	21OCT94	95		1	320032	7
101-00	PLIE		0	22OCT96	21OCT96		4			1
101-01	PLIE	CAL-PRUEBA TX FLUJO PETROLEO	0	27AUG96	-	-	-			至
101-02	PLIE	MANT, CALIB. VP REG. PRINCIPAL FLUJO PETROLEO	0		21OCT96		4 *		SECTION AND ADDRESS.	1
101-04	PLIE	MANT. PRUEBA INSTR. ASOCIADA VALV. DISPARO RECIR	-	03SEP96	04SEP96	-	1	M		L
101-06	PLIE	HABILITAR DISPARO BAJA TEMPERATURA PETROLEO	3	30SEP96	22OCT96		↲ .	_	A MARINE	7
101-08	PLIE	CALIB PRUEBA DISPARO BAJA PRESION PETROLEO	0	27AUG96	29AUG96	1.00	1			
101-10	PLIE	CALIB. MANT. ALARMA BAJA PRES.PETR. HEADER Y SUP	0	03SEP96	05SEP96	1.77				
01-12	PLIE	CALIB. MANT. WP REG. VAPOR ATOMIZAR	0	17SEP96	17SEP96	1				
01-14	PLIE	CALIB. MANT. DISPARO BAJA PRESION VAP ATOMIZADOR	0	04SEP96	04SEP96			X	_	
01-18	PLIE	MANT-INSP-PRUEBA TERMOPAR TEMP PETROLEO	0	19SEP96	21SEP96	1	1.			
01-20	PLIE	INSP-MANT PRUEBA TERMOPAR VAPOR ATOMISAR	0	28AUG96	28AUG96	1	1			
01-22	PLIE	INST NUEVO VISCOSIMETRO	0	29AUG96	29AUG96	-	1		1	
PROP		INOT HOLEO PICCOMMETRO	0	30AUG96	30SEP96	100				
02-00	PLIE	SISTEMA PROPANO	0	2200700	24 00704					
02-02	PLIE	MANT-CALIB TX PRESION PROPANO E INDICADOR	-	22OCT96	21OCT96	0	_		1 3	X
02-04	PLIE	MANT-CAL PERMISIVO PRESION P-IGNT	0	27AUG96	27AUG96	100				
02-06		CAL-PRUEBA ALARMA PRESION DE PROPANO	0	04SEP96	04SEP96	100		×	1 1	
02-08		MANTENIMIENTO SELENOIDES	0	05SEP96	05SEP96	100		E	1 1	
02-10	PLIE	MANTENIMIENTO IGNAITERS	8	28AUG96	23OCT96	90				
SERVO	A PROBLEM	MAN CHIMEN TO ISHATERS	9	16AUG96	22OCT96	90				1
03-00		SISTEMA SERVO	0							_
03-02		MANTENIMIENTO Y CALIBRACION TRANSMISORES PRESION	0	22AUG96	22411000	100	167		1	4
03-04		MANT. CALIB. ALARMAS BAJA PRESION AUTO-ARRAN BOM	0		23AUG96	100			1 1	
3-06		MANT-CAL ALARMAS NIVEL TANQUES	0		23AUG96	100	X.	Ļ		
RBINA				23AUG96	31AUG96	100			1	
4-00	PLIE	TURBINA	0	22OCT96	21OCT98	0			X	,
4-02	PLIE	MANT, CALIB, DETECTORES DE VIBRACIONES	0		24SEP96	100		kynnG)	1	١,
4-04		MANT, CALIB, SENSOR EXPANSION DIFERENCIAL	0		16SEP96	100				
4-06		MANT. CALIB. SENSOR EXPANSION CARCASA	0		05SEP96	100		W		
		MANT, CALIB, SENSOR POSICION DE VALVULAS			17SEP96	100	A STATE OF	All Transfer	1 1	
4-10		MANTENIMIENTO TERMOPARES TURBINA			27AUG96	100	AND		\perp	1
4-12	PLIE	MANTENIMIENTO GRAFICO VIBRACIONES			25SEP96	100		haring 100		
		MANTENIMIENTO PANEL IRD			243EP96	-				
4-14		MANT-CALIB INSTR FRONT STAND				100				-
	PUE II					100	T	# #1		***************************************
4-16		NSP.SISTEMA SELLO TURRINA	0		PERSONAL PROPERTY AND ADDRESS OF	100	1		1	
4-18 4-20	PLIE I	NSP.SISTEMA SELLO TURBINA NSP.CAL SOLENOI ALARM BLOW-DOWN				05		-		+
4-16 4-20 4-24	PLIE I	NSP-CAL SOLENOI ALARM BLOW-DOWN	0	05SEP96 2	10CT96	95		A PROPERTY OF		
4-16 4-20 4-24 4-26	PLIE I	Control and the state of the st	0	05SEP96 2 04SEP96 0	110CT96 14SEP98	95 100 100		-		

Activity ID	AREA	Activity Description 99	Rei Du						50-1	
107-00	PLIE		0	O LUIS O		10	10000	W. W. W.		1000
107-02	PLIE	MANT.RTD'S GENERADOR	0	23SEP9	30AUG9	1			Assessed 1	44
107-04	PLIE	MANTENIMIENTO Y CALIBRACION PANEL HIDROGENO	0	13AUG9				3		
07-06	PLIE	REMPLPANEL ALARMAS HYDROGENO	0	13AUG9						
107-08	PLIE	VERIF-DISPOSIT ALARM PANEL HIDROG	0	14AUG9						
107-12	PLIE	CALIB PUREZA HIDROGENO	Q	27AUG96				X		-
ALENTA	DORES	DE AGUA		1217000	AINCOM	100	4-	40		+
109-00	PLIE	CALENTADORES DE AGUA	0	22OCT98	21OCT96	0	-			X
109-02	PLIE	MANTENIMIENTO Y PRUEBA ALARMAS NIVEL	69	22OCT96			-			44
109-04	PLIE	PRUEBAS SOLENOIDES VAL. NO RET.	32	27OCT96			-			
S. CNTF	ROL REP	HEAT		13.0010	100,30	1	-			- 1
111-00	PLIE	SISTEMA CONTROL REHEAT	0	22OCT96	21OCT96	0	-			X
111-02	PLIE	INSP-MANT-PRUEBA TERMOPAR REH.OUT TEMP	0	28AUG96			Н	-		44
111-04	PLIE		0	05SEP96				X		
111-06	PLIE	INSP.CALIB PRUEBA VP REGULADORA	0	14AUG96		1	_	-		
111-08	PLIE	VERIFICAR SOLENOIDE E INTERRUPTOR DE CONTROL	1	06SEP96	22OCT96	1	- 200	Access		
S. CONE	DENSAD		<u> </u>	10051.20	2200,39	1 23	+	_ggrand	1	
112-00	PLIE	SISTEMA DE CONDENSADO	0	T	Τ	100	-			X
12-02	PLIE	INST-CALIB.PRUEBA CONTROL NIVEL POZO(HOT)	0	26AUG96	30AUG96		4	AST.		34
12-04	PLIE	MANT-CALIB TX FLUJO CONDENSADO	0	28AUG96		1	4	78		
12-06	PLIE	MANT-PRUEBA-INST-ASOCLRECIR. AUTO-ARRA-BOM.	0	27AUG96			4			
EVOS F	ROYEC	TOS			TONOGSE	100	-		-	+
13-00	PLIE	NUEVOS PROYECTOS	0	22OCT96	21OCT96	0	-			X
13-02	PLIE	MODIFICACION CALDERA TIRO BALANCEADO	0	27SEP98	13OCT98	100	4		ANDRUGA	-T
13-04	PLIE	REMPLAZO INDICADORES VERTICALES TIRO BALNCEADO	0	16AUG98	29AUG98	100	AND			
13-08	PLIE	INST SIST. VIBRACIONES ABANICOS	16	28AUG98	24OCT98	80	-	Antonio	AND DESCRIPTION OF THE PERSON	7
LENTAL	ORES	DE AIRE				-	-			T
20-00	PLIE	CALENTADORES DE AIRE(A.H.)	0	22OCT96	21OCT96	0	1			X
20-02	PLIE	MANT.TERMOPARES LADO AIRE A.H.	5	14AUG96	22OCT96	90	Anna	i Kathatanan	ELECTRIC CO.	1
20-04	PLIE	MANT. TERMOPARES LADO GASES A.H.	6	16AUG96	22OCT96	90	193			7
20-06	PLIE	CALIBRACION VP'S REG. DE LOS STEAM COILS	0	30SEP96	04OCT98	100	-		-	7
20-08	PLIE	MANT. Y PRUEBA SOLENOIDES TURBINA AIRE ALARMAS	0	30SEP98	04OCT98	100	1			
EMADO	RES		-1:				-	+-	T -	+
24-00	PLIE	QUEMADORES	0	22OCT96	210CT96	0	f	İ		X
24-02	PLIE	DESC. RACK QUEMADORES E INST. DEL QUEMADOR	0	12AUG96	15AUG96	100	M			Τ
4-04	PLIE	INST. QUEMADORES	0	21AUG96	26AUG96	100	A	7		
4-05	PLIE	FACE 1 INST. INSTALAR ESQ. 1-2	0	04SEP96	140CT96	100		1.		
4-06	PLIE	CONECTAR TRIFECTAS	0	16SEP96	110CT98	100			54027	
4-07	PLIE	FACE 2 INT. ESQ. SECCION INSTRUMENTACION 3-4	0	19SEP96	16OCT96	100	-	-	Market !	+
4-08	PLIE	CONECTAR INTRUMENTACION QUEMADORES	0	24SEP98	140CT98	100			Parents/	
4-09	PLIE	FACE 3 CONECC. PRUEBAS EQUIPO LOGICA SECC. INST.	0	17OCT96	19OCT96	100			A	
4-10	PLIE	CALIBRAR PRUEBAS DE INT. QUEM.	9	15OCT98	23OCT96	75			-	
4-12	PLIE	CALIB. PRUEBAS DE LAS TRIFECTAS	9	15OCT96	23OCT96	75		İ	7,7100	7
4-14	PLIE	REMPLAZO LOGICA ABC QUEMADORES	4	18OCT98	22OCT96	90		-	-	1 1
4-16	PLIE	FOGUEO Y CALIB. FLAMA QUEMADORES	28		24OCT96	0			1 2 2 2	V
SOPLA	DO					-		-	+	
6-00	PLIE :	SISTEMA SOPLADO	0	22OCT96	21OCT96	0		l	7	Z
5-02	PLIE	MANTENIMIENTO PRUEBA INSTRUMENTACION ASOCIADA	0	04SEP98	140CT98	100		Appropries		Π
5-04	PLIE	NSTR.ASOCIADA A NUEVO THERMOPROBE	-			100	A		1	
CONT	ROL CO	MB. FORZADO				-			+	-
0-00	PLIE :	SIST.CONTROL AIRE COMBUSTION FORZADOS	0	22OCT96	21OCT96	0			1 2	Z
0-02	PLIE I	DESCONECTAR ACTUADORES FORZADO	0	14AUG95	4AUG96	100	N			-
2-04	PLIE (CONEC. ACTUADORES FORZADO	0	27AUG98 :	MAUG98	100	Æ	7		-
					220CT96		-			

Abovey 10 •	AREA	Activity Description	Peri	11 200 200 200 200 200 200 200 200 200 2	Emy.	Come	ERIC TER	PION
130-08	PLIE	INSP. LINEAS Y EQUIPO ASOS, Tx FLUJO AIRE	0	27AUG90	A A A A A A A A A A A A A A A A A A A	Yes an account of	* * * * * * * * * * * * * * * * * * *	
130-10	PLIE	MODIFICAR CALB. Tx FLUJO AIRE	0	12AUG96	15AUG9	100	M	
130-12	PLIE	MANT-PRUEBA TERM CONTROL AIRE ENTRADA	1	06SEP96	22OCT96	95	ASSE	
30-14	PLIE	INST. CALIB PRUEBA ANALIZADOR 02	4	16AUG96	22OCT96	90	A	
130-16	PLIE	INSP-CALIB PRUEBA OPACIMETROS	0	18AUG98	16OCT96	100	Approximately	
DESAERE	ADOR			1		1	-	
134-00	PLIE	DESAEREADOR	0	T	T	100	1 . 1	夏
134-02	PLIE	MANT. CALIB. TRANSMISION DE NIVEL E INDICADORES	0	26AUG96	27SEP96	100	Accessor	T T
134-04	PLIE	REMPL.DISPOSITIVO ALARM DISPARO	0	26AUG96	27SEP96	100	APPROVE	m8/
134-06	PLIE	MANTENIMIENTO ALARMAS DE NIVEL	0	26AUG96	29AUG96	100	W	
134-08	PUE	INST-CALIB VP CONTROL NIVEL REMOTO	0	27AUG96	30AUG96	100	AT .	
ABANICO	RECIRC	ULAR GASES				1		
136-00	PLIE	ABANICO RECIRCULAR GASES	0	22OCT96	21OCT98	0		X
136-02	PLIE	MANT. CALIB. PRUEBA WP ALABES DE CONTROL	0	03SEP96	05SEP96	100	20	1 T
136-04	PLIE	MANT-PRUEBA EQUIPO ASOC ALABES CONTRL FRENOS	0	28AUG96	21OCT96	95	ADSTRUCTOR OF THE PARTY OF THE	
138-06	PLIE	MANT-PRUEBA EQUIP ALABES CIERRE	0	27SEP96	21OCT96	95		1
136-08	PLIE	MANT-PRUEBA ALABES SELLO	0	27SEP96	21OCT96	95		
136-10	PUE	REMOVER EQUIPO VIBRACION " INDICON"	0	21AUG96	22AUG98	100	Z	7
136-12	PLIE	PRUEBA INTERLOCK DISPARO ABANICO ALABES	8	22OCT96	23OCT96	0		
BOMBA CI	RCULAC	CION DE AGUA	1	1	120000		<u> </u>	- 4
138-00	_	BOMBAS AGUA CIRCULACION	0	T	T	100		N
138-02	PLIE	MANT. CALIB. PERMISTVOS ARRANQUE	0	16AUG96	19AUG96	100	29	ITI
138-04	PUE	MANT, CALIB, ALARMAS PRESION AGUA SELLO	0	27AUG96	27AUG96	100	X	
SISTEMA A	GUA AL	JMENTAR				1.00		+
140-00	PLIE	SISTEMA DE AGUA DE ALIMENTAR	0			100		2
40-02	PLIE	MANT. CALIB. PRUEBA TRANS. NIVEL, FLUJO, PRESION	0	27AUG96	11OCT96	100	Alexander	
10-04	PLIE	MANT, CALIB, PRUEBA VP REGULADORA AGUA ALIMENTA	0	03SEP96	03SEP96	100	X	
140-06	PLIE	MANT. CALIB. PRUEBA I/P VALVULA DE DESVIO	0	04SEP96	04SEP96	100	X	
140-08	PLIE	MODIF. TX FLUJO Y RECIRCULACION DE BOMBAS	0	08AUG96	17OCT96	100	Approximate Committee	
140-10	PLIE	MANT. CALIB. PRUEBA TRANS. PRESION DESCARGA SUCC	0	28AUG98	30AUG96	100		
140-12	PLIE	MANT. CALIB. PRUEBA DISPARO BFP'S NIVEL DEAREATO	0	29AUG96	15OCT96	100	ANDERSO	
140-14	PLIE	MANT, CALIB, PRUEBA PERMISIVOS Y ALARMAS BFP'S	0	15AUG96	11OCT96	100	A STATE OF THE PARTY OF THE PAR	
140-16	PLIE	MANT. CALIB. PRUEBA DISPOSITIVO AUTO-ARRANQUE	0	28AUG96	05OCT96		ARMININ	15/57
140-18	PLIE	PRUEBA SOLEN-INDICADOR VALV.RECIRCULACION	0	04SEP98	14OCT96	100		
TORRE EN	FRIAMIF	NTO						
146-00		TORRE ENFRIAMIENTO	0	22OCT96	21OCT96	0		X
146-02	PLIE	MANTENIMIENTO ALARMAS DE NIVEL Y PRESION	0	16SEP96	04OCT96	100	la la	
148-04	PLIE	MANTENIMIENTO DISPOSITIVO AUTO ARRANQUE CWP'8	0	04OCT96	06OCT98	100		N .
145-06	PLIE	MANTENIMIENTO DISPOSITIVO DISPARO VIBR. ABANICO	40	29AUG98	26OCT98	50	Acceptance	
TRABAJO G	ENERA	L				-		
160-00	-	GENERAL	0	26OCT96	25OCT96	0		X
160-02	PLIE	CALIB-MANT.SISTEMA PH	3	04OCT96		90		
160-04	PLIE	REMPLMETRO CONDUCT CONDENS.SUR-NORTE	0	26AUG98	19OCT96	100	Antonio	en cure de
160-08	PLIE	CALIB. METRO OXIGENO DISUELTO	0		20OCT96	100		April 1
		SELLO TURBO-GENERADOR				+		
		SIST.LUBRICACION SELLO TURBO GENERADOR	0	22OCT98	21OCT96	0		X
		DESCONECTAR MOTOR BBA. DE LUBRICACION ACEITE D.C	0			100		ITI
		DESARMAR Y LIMPIAR MOTOR DC (RC)	0	06AUG96	06AUG96	100		
	PLME	MANTENIMIENTO ELECTRICO MOTOR DC (RC)	0			100		
		REPARACION MECANICA Y ENSAMBLAJE DEL MOTOR (RC)	0			100		
1		DESMONTAR LIMPIAR Y REPARAR BOMBA	0			100		APPL I
1		NTALACION DE BOMBA DC	0	09OCT98	14OCT96	100		MIT
MUZ-1395			- 1				1	1 1 1
		NTALAR MOTOR DC	9	140CT98	15OCT96	100		A I

Adiviry ID	ARE	Activity Denoration	į,		55.5		See 17	LBP		
M02-09	PLM		8		3 23OCT9					
M02-10	PLM	E CAMBIO VALVULA CHEQUE BOMBA DC	0			-	-		1	N
M02-11	-		0				_	111		1.
102-12	PLM		0	06AUGS						1
M02-13	PLM	MANTENIMIENTO ELECT. MOTOR A 10-1	0	07AUG9						1
M02-14		E REP. MECANICA Y ENSAMB, MOTOR 10-1	9					ĺ		1
M02-15		E DESMOTAR REP. LIMPIAR BOMBA 10-1	0	12AUG9		-	置			
M02-16		E INTALACION BOMBA AC 10-1		28SEP9				Á		Г
M02-17	-	INTALAR MOTOR AC 10-1	0	08OCT9						
M02-18		CONECTAR MOTOR AC 10-1 ELECTRICAMENTE	0	15OCT9				İ	X	1
M02-19		BALANCE MOTOR /BOMBA AC 10-1	0	14OCT9					M	
M02-20	-		0	14OCT9	15OCT9	100			M	
M02-20	-	CAMBIO VALVULA CHEQUE AC 10-1	0	26AUG9	8 25AUG9	100	1	K		Г
	PLM		0	06AUG9	06AUG96	100	X			
M02-22		DESARMAR Y LIMPIAR MOTOR AC 10-2	0	06AUG9	07AUG96	100	図			
A02-23		MANTENIMIENTO ELECT. MOTOR A 10-2	0	07AUG90	07AUG96	100	氢	i		
402-24		REP. MECANICA Y ENSAMB. MOTOR 10-2	0	19AUG9	20AUG96	100	Z			
102-25	_	DESMOTAR REP. LIMPIAR BOMBA 10-2	0	30SEP96		100		1		
402-26		INTALACION BOMBA AC 10-2	0	09OCT96	140CT96	100				
102-27		INTALAR MOTOR AC 10-2	0	140CT96	15OCT96	100			M	
102-28	1	CONECTAR MOTOR AC 10-2 ELECTRICAMENTE	0	140CT96	15OCT96	100			M	
102-29	PLME	BALANCE MOTOR /BOMBA AC 10-2	8	22OCT96	23OCT96	0			1	7
02-30	PLME	CAMBIO VALVULA CHEQUE AC 10-2	0	27AUG96	27AUG98	100	1	<u> </u>		_
02-31	PLME	DESC. MOTOR EXTRA. TANQUE PRINCIPAL ACEITE	9	12AUG98	12AUG98		K			
02-32	PLME	DESARMAR Y LIMP. MOTOR EXT. MOT	0	12AUG98		1	X			
02-33	PLME	MANT. ELEC. MOTOR EXT. MOT	0	14AUG96			×			
02-34	PLME	REPARACION MECANICA Y ENSAMBLAJE MOTOR EXT. MOT	0	15AUG96		100	AND SERVICE AND SE	27		
02-35		DESM. LIMP. Y REPARAR EXTR. MOT	0	16AUG96			X	Y		_
02-36	PLME	INTALACION DE EXTR. MOT	0	15OCT98		100	-		X	
02-37	PLME	INTALACION MOTOR EXTR. MOT Y ALINEACION	0	140CT96		100			100	
02-38	PLME	CONEC. MOTOR EXTR. MOT ELECT.	0	140CT96		100			夏	
02-39	PLME	DESC. MOTOR EXTR. BOUSER	0		12AUG96		Y		A	
02-47	PLME	CONEC. ELEC. MOTOR EXTR. BAUSER	0		12AUG96		X			
02-48	-	DESC. ELEC. MOTOR COND. PUMP	0		12AUG96		Z Z			
02-49	1	DESACOPLAR DESARMAR Y LIMPIAR MOTOR	0		13AUG98					
02-50	-	MANT, ELEC, MOTOR COND, PUMP	0		14AUG98		N			-
2-52		MONTAJE Y ACOPLE MOTOR Y BOMBA ACOND BAUSER	0		14AUG98	100				-
02-53		CONEC. ELEC. MOTOR Y BOMBA A COND.	0			100	X			1
12-54	1	REMOCION DE LIQUEOS EN TUBERIA BOMBA ACOND.	0		140CT96	100	. 1	REMERKE		-
2-55		REMOVER TAPAS Y ELEMENTOS DE FILTRO BAUSER	-		14OCT96	100	_	A1058466		-
2-58		LIMPIAR COMPARTIMIENTO BAUSER	0	15AUG96		100	X	1		
2-57		SANDBLASTING Y COATING BAUSER	0	15AUG96	15AUG98	100	X			1
2-58		MONTAR FILTROS Y JUNTAS	0	21AUG96	30SEP96	100	ASSO	ensusy/	202	-
2-59		REMOVER ENFRIADORES MOT	0	140CT96		100	_ [M	
2-60			0	18AUG98		100	X			-
		LIMPIEZA Y PRUEBA HIDROSTATICA DE ENFRIADORES	0		18AUG96	100	X			-
2-61		LIMPIEZA MOT	0		17AUG98	100	X			-
2-62		SANBLASTIN COATING MOT Y BOMBA	0	19SEP96	91OCT98	100				-
2-63		MONTAJE DE ENFRIADORES	0	14OCT98	15OCT96	100			N	1
		DRAULICO							1	1
		SISTEMA SERVO HIDRAULICO	0			100			X	-
	PLME	DESC. ELEC. MOTOR BOMBA 10-1	0	06AUG98	08AUG98	100 🔣	1	1		-
6-02	PLME	DESACOPLAR MOTOR DESENSAMBLARLO	0	08AUG98	08AUG95	100	-			***************************************
6-03	PLME	MANT.ELEC DEL MOTOR	0	07AUG98	07AUG98	100				
8-04	DI ME	MANT.MECANIC MOTOR	0	08AUG98	08AUG96	100	- 1			-

M06-05 M06-06 106-07 106-08 M06-09 M06-10	PLME	Discription ENSAMBLAR MOTOR MONTARLO ACOPLAR	EX.	Control of the Contro	Philip			g T at	7000	95300
M06-06 106-07 106-08 M06-09	PLME	ENSAMBLAR MOTOR MONTARLO ACOPLAR			The state of the s	Marie Wilson Co.		VI 69 31 11 11 11	Also de la constante de la con	WAS A
106-07 106-08 M06-09		CONFC FLECT MOTOR	-				X			
106-08 M06-09	DIME	CONEC, ELECT. MOTOR DESC. ELEC. MOTOR BOMBA 10-2	0	13AUG9	1.00.00		M	į		
M06-09			0	06AUG96			K			
		DESACOPLAR MOTOR DESENSAMBLARLO	0	08AUG90		3 100	K			
001111	-	MANT.ELEC DEL MOTOR	0	07AUG96	07AUG9	3 100				
	PLME		0	08AUG96	08AUG9	8 100	X			1
M06-11	PLME		0	12AUG96	12AUG9	100	×			
M06-12	-	CONEC. ELECT. MOTOR	0	13AUG96	13AUG9	100	N			
M06-13	PLME		0	04SEP96	04SEP96	100	1	X		
M06-14		LIMPIEZA TANQUE ARMACENADOR	0	26AUG96	26AUG96	100	1	X		
M06-15	PLME	SCERRAR TANQUE NUEVA JUNTA	0	26AUG96	30AUG96	100		A	1	+
M06-16	PLME	REMOVER ENFRIADORE DE ACEITE	0	27AUG96	27AUG96	100	1	X		
M06-17	PLME	LIMPIEZA PRUEBA DE ENFRIADORES	0	27AUG96	28AUG96	100	1	X		
M06-18	PLME	ENSAMBLAJE MONTAJE ENFRIADORES	0	28AUG96	28AUG96	100	1	K		
M06-19	PLME	ACNDICIONAMIENTO MIRILLAS	9	29AUG98	30AUG96	100	-			
M06-20	PLME	DES. MOTOR TAFU	0	06AUG96	06AUG96	100	K	1-	+-	+
M06-21	PLME	DESARMAR MOTOR BOMBA TAFU	0	06AUG96	06AUG96	100	K	į		
M06-22	PLME	MANT. ELEC. MOTOR TAFU	0	07AUG96	07AUG96	100	國		1	
M06-23	PLME	REP. MECANICA MOTOR Y BOMBA	0	07AUG96	07AUG96		W.	. [
M06-24	PLME	ACOPLAR E INSTALAR CONJUNTO M/B	0	08AUG96	14AUG98	1	487	į		
M06-25	PLME	CONEC. ELEC. MOTOR TAFU	0	15AUG96	15AUG96		T.		+-	+
M06-28	PLME	CAMBIO FILTRO TAFU	0	15AUG96	15AUG96		M			
M06-27	PLME	DES. MOTOR FEFE	0	06AUG9s	06AUG96		W -			
M06-28	PLME	DESARMAR MOTOR BOMBA FEFE	0	06AUG96	06AUG96	100				
M06-29		MANT. ELEC. MOTOR FEFE	0	07AUG96	07AUG98	100				
06-30	1	REP. MECANICA MOTOR Y BOMBA FEFE	0	07AUG96	07AUG96	100			-	1
06-31		ACOPLAR E INSTALAR CONJUNTO M/B FEFE	0	08AUG96	14AUG96	100		i		
M06-32	-	CONEC. ELEC. MOTOR FEFE	0		16AUG96	100				
M06-33	PLME	CAMBIO FILTRO FEFE	0	05SEP96	05SEP96	100	484	X		
CTIVIDAD	ES GEN	ERADOR		30021 34	300EF 30	100			+	\perp
M10-00		GENERADOR	0	Γ		100		i		X
M10-01	PLME	DESCONECTAR ELEC. MOTOR BEARING DRAIN EXHAUSTER	0	12AUG96	12AUG96	100	X		1	1
M10-02		DESM. LIMP. MOTOR BERING D.E.	0		12AUG96	100	K			
M10-03	PLME	MANT. ELEC. MOTOR	0	13AUG96		100	X			
M10-04	PLME	MANT. MECANICO MOTOR	0	-	13AUG98	100	X			
W10-05	PLME	MANT, EXHAUSTER	0		14AUG96	100	X		-	\sqcup
M10-06		MONTAJE MOTOR/ EXHAUTER Y ALINEACION	0		15AUG96		×			
W10-07		CONEC. INTALAR EXHA. ELECT.	0			100				
		DES. FILTRO ACEITE SISTEMA SELLO	0		20AUG96 15AUG96	100	Y			
		CAMBIO DE FILTRO Y ENSAMBLAJE	0		18AUG96	100	X			
		COTEJO E INSP. TRI-WAY VALVE	0			100	K			
		LIMPIEZA ENFRIADORES DEL GENERADOR(H2)	0		03SEP96	100		7		
		PRUEBA HIDRO. ENFRIADOR H2	0		21AUG98	100	M			
		MONTAJE ENFRIADOR H2			05SEP98	100		X		
		MONTAGE ENFRADOR NZ	0	30SEP96	31OCT96	100		1 4	K	
NDENSA 412-00		CONDENSADOR	0 1			400				.,
		NSP. REPARACION CAMBIO DE COMPURTAS	0	0000000	4205000	100			3	(
		MANT. VALVULAS ENTRADA NORESTE	0			100	***	EN .		***************************************
-			0			100	X			
		MANT, VALVULAS ENTRADA NOROESTE	0		20AUG96	100	X			
		MANT, VALVULAS ENTRADA SURESTE	0		21AUG96	100	X			_
		MANT. VALVULAS ENTRADA SUROESTE	0		22AUG96	100	X			
		BANBLASTIN REP. VULCANIZACION PUERTAS ENTRADA CO	0	08AUG96	14OCT98	100	S IN SIL		DEST!	
	10							:		ŧ

Activity ID	AFE	Admity Descriptors	Pa		1 1277		1-200	eriiyi nebassi	··)····)··	
M14-0	100000	E DESC. ELEC. BOMBA VACIO 10-1	0	08AUG	8 06AUG9	6 100		CTCREE.		
M14-0	2 PLM	E DESAC, MOTOR BOMBA VACIO 10-1	0	06AUGS						
M14-0:	3 PLM	E DESENSAMBLAR MOTOR BOM.VACIO 10-1	0	12AUG9						
14-0		E MANT. ELEC. MOTOR BOMBA VACIO 10-1	0	13AUG9						
M14-0		MANT. MECANICO MOTOR BOMBA VACIO 1-01	9	14AUG9			-	<u> </u>		
M14-06		E ENSAM, MOTOR BOMBA VACIO 10-1	0	19AUG2		-		.		
M14-07		E CAM. CAJAS DE BOLAS BOM. 10-1	0	14AUG9		-	-			
M14-08		COTEJO RECORIDO LIBRE BOMBA 10-1	0	12SEP9		-	_	-		
M14-09		ALNEAR MOTOR Y BOMBA 10-1	0			-		区		
M14-10		E ENGRACE DE ACOPLE BOMBA VACIO 10-1	0	12SEP9				X		
W14-11		INTALACION SELLO MECANICO CHESTERTON		13SEP9		-	_	X		-
W14-12		REMOCION ENFRIADORES DE AGUA DE SELLO 10-1	0	16SEP9				X		******
W14-13		LIMPIEZA PRUEBA HIDROT. ENFRIAD. 10-1	0	15AUG9						-
W14-14		MONTAJE ENFRI, 10-1	0	16AUG9			Appl	7		
W14-15		INSP. Y LIMPIEZA TANQUE DE SELLO 10-1	0	27AUG9				N		
414-16			- 0	15AUG9			X			-
A14-17		INSP. FUCIONAMIENTO DE BOYA TAN. 10-1	0	15AUG9	15AUG94	100	X			-
A14-18		ACONDIC, COLUBNA NIVEL 10-1	0	28AUG96	29AUG96	100] .	X		
114-19		COTEJO MANT. ROTAMETRO 10-1	0	29AUG96	30AUG98	100		夏		i
114-19		LIMPIEZA CEDAZO AGUA SELLO 10-1	0	21AUG96	21AUG96	100	X			
14-20	_	DESC, ELEC, MOTOR BOMBA DE SELLO 10-1	0	15AUG96	15AUG98	100	X			T
114-21		MANT. MECANICO Y ELEC. MOTOR BOMBA SELLO 10-1	0	15AUG96	15AUG96	100	X			-
14-22		ENSAMB, MOTOR BOMBA SELL 10-1	0	16AUG90	16AUG96	100	M			
14-24		INT. MOTOR BOMBA SELLO 10-1	0		28AUG96	100	1 2			
14-25	_	CONECTAR ELEC. MOTOR BOMBA VACIO 10-1	0	12SEP96	12SEP96	100		X		
		DESC. ELEC. BOMBA VACIO 10-2	0	06AUG96	06AUG96	100	K			Ī
14-26		DESAC. MOTOR BOMBA VACIO 10-2	0	06AUG96		100	K			
14-27	PLME		0	12AUG96		100	X			
14-28		MANT. ELEC. MOTOR BOMBA VACIO 10-2	0	13AUG96	13AUG96	100	X			
14-29	-	MANT. MECANICO MOTOR BOMBA VACIO 10-2	0	13AUG96	13AUG96	100	X			
14-30		ENSAM. MOTOR BOMBA VACIO 10-2	0	04SEP96		100		X		T
14-31		CAM. CAJAS DE BOLAS BOM. 10-2	0		14AUG98	100	K			
14-32		COTEJO RECORIDO LIBRE BOMBA 10-2	0	12SEP96	12SEP96	100		X		
14-33	_	ALNEAR MOTOR Y BOMBA 10-2	0	12SEP96	12SEP98	100		X		
14-34		ENGRACE DE ACOPLE BOMBA VACIO 10-2	0	13SEP96	13SEP96	100		X		
14-35		INTALACION SELLO MECANICO CHESTERTON	0	16SEP96	17SEP98	100		X		
14-36		REMOCION ENFRIADORES DE AGUA DE SELLO 10-2	0	14AUG96	14AUG96	100	X			
14-37		LIMPIEZA PRUEBA HIDROT. ENFRIAD. 10-2	0	15AUG96	03SEP96	100	Apres .	7		
14-38		MONTAJE ENFRL 10-2	0	28AUG96	27AUG98	100	M			
4-39		INSP. Y LIMPIEZA TANQUE DE SELLO 10-2	0		15AUG96	100	X			
4-40		INSP. FUCIONAMIEMTO DE BOYA TAN. 10-2	0	15AUG98	15AUG96	100	X			
4-41	-	ACONDIC. COLUBNA NIVEL 10-2	0	27AUG98	28AUG96	100	X			
4-42	-	COTEJO MANT. ROTAMETRO 10-2	0	29AUG96	30AUG96	100	M			
4-43		LIMPIEZA CEDAZO AGUA SELLO 10-2	0	29AUG96	30AUG96	100				
4-44		DESC. ELEC. MOTOR BOMBA DE SELLO 10-2		12AUG98		100	X			
4-45		MANT. MECANICO Y ELEC. MOTOR BOMBA SELLO 10-2	0	12AUG98	13AUG98	100	X			
4-46	-	ENSAMB, MOTOR BOMBA SELL 10-2	0	13AUG94	14AUG96	100	M			
4-47	PLME	INT. MOTOR BOMBA SELLO 10-2	0	22AUG96	22AUG96	100	K			
4-48	PLME	CONECTAR ELEC. MOTOR BOMBA VACIO 10-2	0	13SEP96	133EP98	100		X		
	ONDES						1			-
6-00		BOMBAS DE CONDESADO	, 0			100			本	
5-01	PLME	DESC. MOTOR DE BOMBA 10-1	0	05AUG96	05AUG98	100 🛚	1			
6-02	PLME	DESAMBLAR LIMP. DESMONTAR MOTOR 10-1	0	06AUG96	08AUG98	100 🗵	į			
6-03	PLME	MANT. ELEC. MOTOR 10-1	0	06AUG96	06AUG98	100 K	- 1		1 1	

Activity ICI	AREA	Arthly Description	Fe		int.			3 C 3 3 1	Y8535			
M16-04		MANT. MECANICO MOTOR 10-1	0	06AUG9	Pres 06AUG98	100			36.2			
M16-05		ENSAMBLAR MOTOR 10-1	0	03SEP96		1	-			-	_	1
M16-06		MONTAJE NUEVA BOMBA CONDENSADO	0	30AUG96		100	-	4	E ST			
到16-07	_	ACOPLAR ACOPLAR MOTOR/ BOMBA	0	26SEP96			1	A	,			
M16-08		MONTAJE NUEVO SELLO MECANICO (CHESTERTON)				100				X		
M16-09		MANT. VALVULAS AISLADORA	0	16SEP96		100		l				
M16-10		MANT. DE JUNTAS DE EXPANCION	0	048EP90		100			K			
M16-11			0	04SEP96	-	100		- 1	K			
M16-11		COLOCAR CEDAZO DE DE SUCCION DE LA BOMBA	0	05SEP96		100		3	K			
		CONEC. MOTOR ELECT.	0	05AUG96		100	K					-
M16-13	-	DESC. MOTOR DE BOMBA 10-2	0	05AUG96		100	K					
M16-14		DESAMBLAR LIMP. DESMONTAR MOTOR 10-2	0	06AUG96	06AUG98	100	W.	-				
M16-15	-	MANT. ELEC. MOTOR 10-2	0	06AUG96	06AUG96	100	K					T
M16-16	-	MANT. MECANICO MOTOR 10-2	0	06AUG95	06AUG98	100	K				-	
M16-17		ENSAMBLAR MOTOR 10-2	0	30AUG96	03SEP96	100	1	4	,			
M16-18	1	MONTAJE NUEVA BOMBA CONDENSADO	0	30AUG96	03SEP96	100			,			
M16-19	PLME	ACOPLAR ACOPLAR MOTOR/ BOMBA	0	26SEP98	26SEP96	100			3	K		-
M16-20		MONTAJE NUEVO SELLO MECANICO (CHESTERTON)	0	12SEP96	24SEP96	100					1	Ť
M18-21		MANTENIMIENTO MECANICO AL MOTOR Y ENSAMBLAR	0	03SEP96	03SEP96	100		N				
M16-22	PLME	MANT. DE JUNTAS DE EXPANCION	0	04SEP98	04SEP96	100		7	K			
M16-23	PLME	COLOCAR CEDAZO DE DE SUCCION DE LA BOMBA	0	05SEP96	05SEP96	100		Z	K	1		
M16-24	PLME	CONEC. MOTOR ELECT.	0	30SEP96	01OCT96	100		l		N		
M16-36	PLME	CONECTAR MOTOR BBA. CONDENSADO 2	0	01OCT96	02OCT96	100		$\neg +$		X	+	t
RECALE	NTADOR	DE AIRE		-	1			\neg		1	+	t
M20-00		PRECALENTADORES DE AIRE	0			100					2	-
M20-01	PLME	DESCONECTAR ELECTICAMENTE MOTOR PREC. 10-1	0	12AUG96	12AUG96	100	K					
M20-02	PLME	REMOVER Y DESAMBLAR MOTOR A.H. 10-1	0	12AUG96	12AUG96	100	X					
20-03	PLME	MANTENIMIENTO ELEVTRICO MOTOR	0	13AUG96	13AUG96	100	X			1		
M20-04	PLME	MANTENIMIENTO MECANICO MOTOR	0	13AUG96	13AUG96	100	X					
M20-05	PLME	EMSAMBLAJE MOTOR Y MONTAJE	0	03SEP96	03SEP96	100		X		1	+	
M20-06	PLME	CONECTAR MOTOR ELEC.	0	16SEP96	17SEP96	100			M	1		
M20-07	PLME	DESCONECTAR ELECTICAMENTE MOTOR PREC. 10-2	0	05AUG96	05AUG96	100	K					
M20-08	PLME	REMOVER Y DESAMBLAR MOTOR A.H. 10-2	0	05AUG96	05AUG96	100	7					
M20-09	PLME	MANTENIMIENTO ELEVTRICO MOTOR	0	06AUG96	.06AUG96	100	K	i				
M20-10	PLME	MANTENIMIENTO MECANICO MOTOR	0	14AUG96	07AUG96	100	Z	\dashv		 	+	-
W20-11	PLME	EMSAMBLAJE MOTOR Y MONTAJE	0	28AUG96	28AUG96	100		K				
M20-12	PLME	CONECTAR MOTOR ELEC.	0	17SEP96	18SEP96	100			M			
W20-13	PLME	DES. ELECT. MOTOR GUIDE BEARING 10-1	0	03SEP96	03SEP96	100		×				
M20-14	PLME	REMOVER Y ENSAMBLAR MOTOR	0	03SEP96	04SEP96	100		W	•			
420-15	PLME	MANT. ELECTRICO AL MOTOR	0	04SEP96	05SEP96	100		X		-	+	
A20-18	PLME	COTEJO GUIDE BEARING 10-1	0	18SEP96		100			X			
120-17	PLME	CONEC. MOTOR GUIDE BEARING 10-1	0	19SEP96		100		į	M			
M20-18		DES. ELECT. MOTOR GUIDE BEARING 10-2	0	03SEP96	03SEP98	100		X	_			
420-19		REMOVER Y ENSAMBLAR MOTOR	0	04SEP98		100		X				
120-20		MANT, ELECTRICO AL MOTOR	0	05SEP96		100		X			\vdash	
120-21		MANTENIMIENTO MECANICO DEL MOTOR	0			100		X				
120-22		ENSAMBLAR Y MONTAR MOTOR	0	06SEP96		100		×				
120-23		COTEJO GUIDE BEARING 10-2	0			100			×			
		CONEC. MOTOR GUIDE BEARING 10-2	0			100		l	X			
		INSP. SISTEMA DE SOPLADO 10-1	0								\vdash	
20-26		INSP. SISTEMA DE SOPLADO 10-2	-			100			I			
		INGE, GIGTEMA DE GOPLADO 10-2	0	20SEP96	21SEP96	100			Z		H	_
EAM COI		STEAM COIL	0	т		100		1		,	Z	
		MANT, A VALVULAS ASOCIADAS AL STEAM COIL 10-1	0	26SEP96					450	, -		
122-01	FLME !	MANTI. A VALVULAS ASCUMUMS AL STEAM CON. 10-1	0	T005L30	JUGEPS6	100		1	4			

Activity	AREA	Activity Department of the latest and the latest an	100		(E-7		Tay to	· 1983	1100
M22-02		MANT. A VALVULAS ASOCIADAS AL STEAM COIL 10-2	0	30SEP90	Finite 140CT90		240000000000000000000000000000000000000		
M22-03	PLME	MODIFICACION TRAMPA VAPOR STEAM COIL 10-1	0	140CT96			4		A
W22-04	PLME	MODIFICACION TRAMPA VAPOR STEAM COIL 10-2	0	14OCT96			1		407
122-05	PLME	CAMBIO FLANGE SEPARADOR VAPOR 10-1 POR NIPLES	0	30SEP96					ANT
M22-06	PLME	CAMBIO FLANGE SEPARADOR VAPOR 10-2 POR NIPLES	0	30SEP96			_		400
QUEMADO				10021 00	0400136	100	-		201
M24-00	PLME	QUEMADORES	0	T	T	100	-		N N
M24-01	PLME	INSP. REPARA. QUEMADORES	0	09AUG98	13AUG96		-	İ	A
M24-02	PLME	MONTAJE DE VISCOSIMETRO	0	03SEP96				part .	
M24-03		ELIMINAR RACK QUEMADORE	0	09AUG96					
M24-04	-	MONTAJE VALVULAS TRIFECTAS	0	99AUG96			1		_
SOPLADO	1			JONUGUO	203CP90	100	Agreem	MORRE	and a
M26-00	-	SOPLADORES DE HOLLIN	0	T	T	100	-		
M26-01		ENPAQUETAR SOPLETES SISTEMA CHESTERTON	0	16SEP96	95OCT98	100	-		
M26-02		REP. SALIDEROS DE VAPOR POR VAL. ADMISION VAPOR	0			1	1	A	Sales of the sales
/ALVULAS	1			14OCT96	19OCT96	100			AN
M28-00		VALVULAS DE CALDERA	0	T	1	100	-		
M28-01		MANT. VALVULAS Y EMPAQUE VAL. DEFECT. CALDERA	0	19AUG96	04SEP96	100			🗸
STACION	1			13/40/30	9435790	100	200	hill.	
M32-00		ESTACION REDUCTORA	0	22OCT96	21OCT96	0	-		Var
M32-01		MANT. VALVULAS ESTACION REDUCTORA	0	22AUG96	23SEP96				X
M32-02		CAMBIO VALVULAS DEFECTUOSAS	8	14OCT96		100	. Ann	THE RESERVE OF THE PARTY OF THE	
ESAREAL		The state of the s	-	1400130	23OCT96	1			
M34-00	10053576	REP.BOQUILLA DEL DESAREADOR	0	T		100			
M34-01	V	INSP. REPARACION BOQUILLA DESAREADOR	0	03SEP96	03SEP96	100		-	4
134-02		PRUEBA HIDROSTATICA VENT-CONDUSER	0	04SEP96	04SEP96	100		X	
134-03		REPARACION DE TUBOS (DE SER NECESARIO)	0	05SEP96	05SEP96			X	
134-04		INSP. DE SOLDADURA DE TANQUE	0	27AUG96	27AUG96	100			
M34-05		INSP. Y REPARACION VALVULAS DE NIVEL	9	05SEP96	05SEP96	100		K	
M34-06		MANT. VALVULAS AISLADORAS	0	28AUG96		100	,	X	
M34-07		REPARAR COMPUERTAS DESAREADOR	0	09AUG96		100	American		
BANICO D				UNAUGNO	18SEP98	100	Water 1		
M36-00		ABANICO DE SELLAJE	10	12AUG96	12411000	400	w		
M36-01		DESC. ELECT. MOTOR	0	12AUG98		100	X	Ī	
		ELIMINAR TUBERIA AREA QUEMADORES	0			100	X		
OMBA DE			0	13AUG96	14AUG96	100	M	ļ	
		BOMBA DE ALIMENTACION	0			100			
		MANT. VALVULAS ASOCIADAS BOMBA ALIM. 10-1	0	29AUG98	29AUG96	100		J	翠
		MANT. VALVULAS ASOCIADAS BOMBA ALIM. 10-2	0		30AUG98	100			
SAREAD		matt. That seed not of both Alm. 19-5		JUAUGS	SUAUGS	100			
		DESAREADOR	0	т		100			X
		DESACOPLAR MOTOR/BOMBA 10-1	0	06AUG96		100	,		A
		REMOVER DESARMAR MOTOR 10-1	0				,		
		MANT. ELEC. 10-1	0			100	,	İ	
		MANT. Y REP. MECANICA DEL MOTOR		07AUG98		100	v		
		ENSAMBLAR MOTOR 10-1	-			100			
		DESARMAR BOMBA 10-1				100 2			
		REP, MECANICA DE LA BOMBA	-			100			
						100	_		
		ENSAM.BOMBA Y PREPARAR PARA SELLO MEC.				100			
'		MONTAJE MOTOR Y ALINEAMIENTO MOTOR/BOMBA				100	,	AND T	
		MONTAJE SELLO MECANICO				100		_	
		MANT, VALVULAS AISLADORAS				100		X.	
		CONECTAR ELECTRCAMENTE EL MOTOR 10-1				100		A	
42-14	MET	DESACOPLAR MOTOR DE BOMBA 10-2	0	07AUG98 (7AUG96	100			

Activity		Achliy	. 10	e Late	Hour.						
M42-15	AREA DI ME	DESACOPLAR MOTOR/BOMBA 10-2	The state of the s	998	Freing	Ocar	638	311/11/11	1000		75.7%
M42-16	-	REMOVER DESARMAR MOTOR 10-2	0	07AUG96			0 2				
142-17	PLME		0	07AUG96		1					-
142-18		MANT. Y REP. MECANICA DEL MOTOR	0	08AUG98	1000	-)	(
M42-19	-		0	09AUG98				(
	-	ENSAMBLAR MOTOR 10-2	0	03SEP96			3		M		
M42-20	PLME		0	09AUG96	09AUG9	8 100		(
M42-21	-	REP. MECANICA DE LA BOMBA 10-2	0	09AUG96	12SEP9	100			A STATE OF		T
M42-22		ENSAM.BOMBA Y PREPARAR PARA SELLO MEC. 10-2	0	13SEP96	13SEP90	100			X		
M42-23	+	MONTAJE MOTOR Y ALINEAMIENTO MOTOR/BOMBA 10-2	0	26SEP96	26SEP96	100)			S	
VI42-24	-	MONTAJE SELLO MECANICO 10-2	0	18SEP96	18SEP90	100			X		
M42-25		MANT.VALVULAS AISLADORAS 10-2	0	19SEP96	19SEP96	100			M		
W42-26		CONECTAR ELECTRCAMENTE EL MOTOR 19-2	0	01OCT96	02OCT96	100	1		İ	X	\dagger
		BUSTIBLE			-		+		1	-	+
A44-00	-	BOMBAS DE COMBUSTIBLE	0			100					X
A44-01	_	DESC. ELECT. MOTOR BOMBA COMBUST. 10-1	0	06AUG96	06AUG98	100	K				
144-02	PLME	DESACOPLARY REMOVER MOTOR 10-1	0	06AUG96	06AUG96	100	K				
144-03		DESAMB. LIMPIAR MOTOR 10-1	0	07AUG96	07AUG96	100	N				1
144-04		MANT.ELEC. MOTOR 10-1	0	07AUG96	07AUG96	100	N				
144-05	PLME	MANT. MEC. 10-1	0	08AUG96	08AUG96	100	2			1	t
144-06	PLME	ENSABLAJE Y MONTAJE MOTOR 10-1	0	19AUG96	20AUG96	100	1				
144-07	PLME	INSPEC BOMBA SELLO MECANICO 10-1	0	16SEP96	17SEP98	100	1		X		
44-08	PLME	LIMPIEZA FILTRO SUCCION	0	21AUG96	22AUG96	100	1	M			
44-09	PLME	MANT.CAJUELA FILTRO	0	22AUG96	23AUG96	100	1	M	ĺ		
144-10	PLME	MANT. VALVULAS AISLADORAS	0	23AUG96	23AUG96	100	†	X		1	+
44-11	PLME	CORRECCION DE LIQUEOS DE COMBUSTIBLES	0	26AUG96	27AUG98	100	1	N			
44-12	PLME	DESC. ELECT. MOTOR BOMBA COMBUST. 10-2	0	06AUG98	06AUG98	100	K				
44-13	PLME	DESACOPLAR Y REMOVER MOTOR 10-2	0	06AUG96	06AUG96	100	X				
44-14	PLME	DESAMB, LIMPIAR MOTOR 10-2	0	07AUG96	07AUG96	100	K				
44-15	PLME	MANT.ELEC, MOTOR 10-2	0	08AUG96	08AUG96	100	M			+-	+
44-16	PLME	MANT. MEC. 10-2	0	08AUG96	08AUG96	100	X				
44-17	PLME	ENSABLAJE Y MONTAJE MOTOR 10-2	0	19AUG96	19AUG96	100	1	X			
44-18	PLME	INSPEC BOMBA SELLO MECANICO 10-2	0	17SEP98	18SEP96	100	1		I		
44-19	PLME	LIMPIEZA FILTRO SUCCION	0	20AUG98	20AUG96	100	1	X			
44-20	PLME	MANT.CAJUELA FILTRO	0	21AUG96	21AUG96	100	\vdash	X			
44-21	PLME	MANT. VALVULAS AISLADORAS	0	21AUG96	21AUG96	100		X			
44-22	PLME	CORRECCION DE LIQUEOS DE COMBUSTIBLES	9	04SEP96	04SEP96	100			N N		
44-23	PLME	CORREJIR PASE VAL. BOMB. PETROLEO 10-2	0	05SEP96	05SEP96	100		-	M		1
44-24	PLME	CONECTAR AMBOS MOTORES	0	30AUG96	30AUG98	100		X			
REDE	ENFRIA	MIENTO					-	7			+
16-00	PLME	TORRE DE ENFRIAMIENTO	0	22OCT96	21OCT96	0		ĺ		1	Z
16-01	PLME	DESACOPLAR MOTOR DETRANSMISION	0	06AUG96	06AUG96	100	X				
18-02	PLME	REMOVER MOTOR TRANSMISION	0	06AUG96	06AUG96	100	K				
6-03	PLME	REMOVER MOTOR Y TRANSMISION	0	07AUG98	07AUG96	100	K				
6-04	PLME	MANTENIMIENTO ELE, DEL MOTOR	0	07AUG96	7AUG96	100	K				ĺ
8-05	PLME	MANT.MEC. MOTOR	0	08AUG96	8AUG96	100	K	T			\forall
6-06	PLME	ENSAMBLAR MOTOR	0	08AUG98	8AUG96	100	X				***************************************
8-07	PLME I	NST. Y ACOPLE DE MOTR/TRANSMISION REP.	9	140CT96	SOCT96	100				M	
6-08	PLME (CONEC. ELEC. MOTOR	8	22OCT98	23OCT96	0				*	7
8-09	PLME I	MANTEN. VALVULAS SUPERIOR	0	03SEP96	6SEP96	100		A	7		
6-10	PLME F	REMOCION "LOUVERS"	0	09AUG96	9AUG96	100	K				1
8-11	PLME F	REMOCION "FILLS"	0	12AUG98 1	2AUG98	100	X				
6-12	PLME A	ACONDICIONAMIEMTO LOS "DIFT ELIMINATORS"	0	13AUG96 1	JAUG98	100	X				
6-13	24 445	CAMBIO DE ELEMENTO ESTRUCTURA DEFECTUOSA	0	20AUG96 1	40CT96	100	4	COMMON		need EST	- 1

Activity	T	ALDVA	ie.	m a Tellys				Walling of the Control of the Contro	
M46-14	PLME		-	F State			CAUSE		5.56
M46-15	PLME		0			-			
W46-16		INTALAR "LOWVERS"	32		26OCT9	-			A
7148-22		MONTAJE BUSHING HALLOW SHAFT (MODIF.)	8	22OCT96					
M46-23	-		0	12AUG9					
M46-24		LEVANTAMIENTO DE BOMBA	0	12AUG9					
M48-25		MONTAJE BOMBA REPARADA	0	13AUG96					
	-	MONTAJE Y ACOPLE MOTOR	0	14AUG9			X		
M46-26	PLME		0	14AUG90	14AUG9	100	X		
M46-27		MANT. VALVULAS AISLADORAS INTERC.	4	15OCT96	23OCT96	50			47
M46-28	-	CONECTAR MOTOR ELECTRICAMENTE	0	15AUG96			X		
M46-29	PLME		0	12AUG94			X		
M46-30		DESACOPLAR Y LIMPIAR MOTOR	0	12AUG96	12AUG96	100	X		
M46-31		MANT. ELECTRICO DEL MOTOR	0	13AUG94	13AUG96	100	I		
M46-32	PLME		0	13AUG96	13AUG96	100	X		
M48-33	1	MONTAJE BUSHING HALLOW SHAFT (MODIF.)	0			100	1		X
M46-34		LEVANTAMIENTO DE BOMBA	0	14AUG96	14AUG94	100	X		
M46-35		MONTAJE BOMBA REPARADA	0	15AUG96	14AUG96	100	M		
M48-36	+	MONTAJE Y ACOPLE MOTOR	0	15AUG96	15AUG96	100	×		
M46-37		EMPAQUETAR BOMBA LUBRICAR MOTOR	0	15AUG96	15AUG96	100	X		
M46-39	PLME	CONECTAR MOTOR ELECTRICAMENTE	0	14OCT98	15OCT96	100	1		Z
JMITORQ					1				
M48-00		LIMITORQUES	0			100	1		A
M48-01		MANT. LIMITORQUE VALVULA DESCARGA BOM 10-1	0	26AUG96	26AUG96	100	X		
M48-02		REMPAQUE VALVULA 10-1	0	27AUG96	27AUG94	100	X		
M48-03		MANT. LIMITORQUE VALVULA DESCARGA BOM 10-2	0	20AUG96	24SEP96	100	A	WALL Y	
148-04		REMPAQUE VALVULA 10-2	0	28AUG96	29AUG96	100			
148-05	1	MANTENIMIENTO LIMITORQUE VALVULAFRONTAL	0	14OCT98	15OCT96	100			N
MEL OIL		FUEL OIL HEATER	1 0	140====	F				
M50-01		MAN. VAL. AISLADORA ELM. VAL. ASO. REG. VAPOR CAL	0	11SEP96	16SEP96	100		A	
	L		0	15AUG96	20AUG96	100			
M52-00	1	ABANICO DE DETECCION DE FLAMA	0	2200T08	2400704	_			
M52-01	-	DESC. ELEC. MOTOR SCANNER 10-1	0		210CT96	0			2
M52-02		DESACOPLAR Y REMOVER MOTOR 10-1	-	06AUG98		100			
M52-03		DESARMAR MOTOR 10-1 Y LIMPIAR	0	96AUG98			E	.	
M52-04		MANT. ELEC. 10-1	0	06AUG96		100			
M52-05		MANT. MECANICO MOTOR 10-1	0	07AUG98					
M52-06		COTEJO ASPAS ABANICOS, LAGGUINGS, PEDESTAL	0	07AUG98		100			
M52-07		MONTAJE ABANICO /MOTOR	0	27AUG98		98		SECTION 1	
M52-07		COTEJO Y REPARACION VALVULAS CHEQUE	0	12SEP96		100		Z	
M52-09		DESC. ELEC. MOTOR SCANNER 10-2	0			100	The same		
M52-10			0		06AUG96	100	K		
		DESACOPLAR Y REMOVER MOTOR 10-2	0	06AUG96	2000 1000 1000 1000 1000	100	K		
M52-11		DESARMAR MOTOR 10-2 Y LIMPIAR	0	07AUG96		100			
M52-12		MANT. ELEC. 10-2	0		08AUG96	100			
		MANT. MECANICO MOTOR 10-2	0		38AUG96	100			
		COTEJO ASPAS ABANICOS, LAGGUINGS, PEDESTAL	0		16SEP96	100			
		MONTAJE ABANICO /MOTOR	0		13SEP98	100	1	Z	
		COTEJO Y REPARACION VALVULAS CHEQUE	0	05SEP96	05SEP96	100	X		
1		SOBRECALENTADOR							
		ATEMPERADOR DEL SOBRECALENTADOR	0	054110		100			*
		MANTENIMIENTO VALVULAS CONTROL Y EQUIPO ASOCIADO	0	05AUG96	08AUG96	100			
T. CONT		TROLEO SISTEMA CONTROL DE PETROLEO	0	т	т	100			X
		MANT, VALVULA PRINCIPAL CONTROL EQUIPO ASOCIADO	0	22411004	1205000	100		7	4
N01-02	1. P. (414)	WATER ANT A DEVILUE LUMINICATE CAMBO WOOFWOO		23AUG96	12SEP98	100			

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Activity	AREA	Addition of Department of Texts of Text			Early Parket		203	1 352		
N01-04	PLNA	MANT. VALVULA PRINCIPAL DISPARO EQUIPO ASOCIADO	0	06SEP9	The second secon		F2 (1) (1) (1)			-
N01-08	PLNM	MANT. VALV. RECIR. "BURNER HEADER" EQUIP. ASOCIA	0	26AUG9				And the second s		
V01-08	PLNN	MANT. VALV. RECIR. "BOILER HEADER" EQUIP. ASOCIA	0	24SEP96						
N01-10	PLNN		0	07OCT96				- 4	-	1
N01-12	PLNN	MANT, VALVULA VAPOR ATOMIZAR	0	14AUG96						
IST. ACE	ITE DE	LUBRICACION	1	Indoor	TONOGS	9 100				L
N02-00		SISTEMA ACEITE DE LUBRICACION	0	T	T	100	\forall		1 .	-
N02-02	PLNM	MANTENIMIENTO REGULADORA DE PRESION Y ACEITE	0	24SEP96	12OCT96		_		A CONTRACTOR OF THE PARTY OF TH	Z
N02-04	PLNM		0	27AUG94			-	A A	Separate A	
N02-06	PLNM	MANTENIMIENTO INDICADORES LOCALES	0	16SEP96		-				
STEMA	PROPA	1		1032730	100EPag	100	4			
N03-00	1	SISTEMA PROPANO	0	T	T	100	4			_
N03-02	PLNM	MANT. VALVULA DE DISPARO Y EQUIPO ASOCIADO	0	19AUG98	20111000	100		İ	1	a a
N03-04	PLNM					1.00				
N03-06	PLNM		0	12AUG96						
STEMA:		MONTH CONTROLLED RESPONSE CONTROLLED	0	17AUG96	17AUG96	100	X			
N05-00	PLNM	SISTEMA SERVO	10	·		1	1			
V05-02	PLNM		0	20111000		100	_		3	1
N05-04	PLNM		0	08AUG96						
	HIDROG		0	07AUG96	D8AUG96	100	N			
107-00	PLNM		0			1400				,
407-02	PLNM		0	10411000	24 4/1000	100	_		1	4
107-04	PLNM		0	19AUG96	21AUG96	1				
107-06		MANTENIMIENTO TRAMPA ACEITE SELLO	-	23AUG96	24AUG96	1	I			
107-08	PLNM		0	17AUG96	17AUG96	1	X			
EA TUR	1	martinimento i essemblino Acelie Sello	0	17AUG96	17AUG96	100	X			
09-00		TURBINA	0	Т	Т	100				7
109-04	PLNM	MANTENIMIENTO VALVULA ROMPEDORA DE VACIO	0	99AUG96	00411000	100	3450		1	
409-08		REMPL. ACTUAL REGULADORA VAPOR SELLO X 2 DIAFRAG	0	13AUG96	09AUG96	100				
109-10		CHEQUEO Y/O REMPLAZO "SENSING LINES" A TRANSMISO	0	03SEP96	15AUG96 06SEP96	100	M	407		
LENTAL	OR DE			OJSEPSO	DESERVE	100		W		
111-00		CALENTADORES DE AGUA	0	Γ	Γ	100			1	,
111-02		MANTENIMIENTO CONTROLES DE NIVEL	0	16SEP96	23SEP96	-		200	4	
111-04		MANTENIMIENTO VALVULAS REGULADORAS DE NIVEL	0	20SEP96	25SEP96	100				
111-08		MANTENIMIENTO MECANISMOS DE DISPARO ALTO NIVEL	0	05AUG96	23SEP96	100		100		
11-10		MANTENIMIENTO INDICADORES DE NIVEL	0	25SEP96				_		
		MIENTO		233EP90	17OCT96	100		4	DESIGNATION OF THE PERSON OF T	
113-00		TORRE DE ENFRIAMIENTO	0			100			1	
13-02	PLNM	MANTENIMIENTO VALVULA REGULADORA NIVEL Y	0	19AUG96	23AUG96	100			7	
MBA DE			_	100030	2340090	100	#			1
14-00		BOMBA DE VACIO	0		т	100			X	
14-02	PLNM	MANTENIMIENTO VALVULAS DE SUCCION	0	05AUG96	07AUG96	100	y		4	
14-04	PLNM	MANTENIMIENTO PISTON "AIR MOTIVE VALVE"	0		10AUG96					-
14-06	PLNM	MANTENIMIENTO FLUJOMETROS	0		08AUG98	100				-
		R CONDENSACIONES		UZAGGS	OCKO COSO	100			-	+
		TANQUE RCIBIDOR DE CONDENSACIONES	0	T	Т	100	1		N	
15-02	PLNM	MANT. VALVULA REGULADORA DE NIVEL Y SU CONTROL	0	23AUG96	23SEP98	100	Amai	ORNE OF	7	1
		MANT. INDICADOR DE NIVEL	0	-		100				-
	ENSADO		•	Z-TOEF #0	A-OCP 96	100		X		-
		SISTEMA CONDENSADO	0			100			X	-
		MANTENIMIENTO REGULADORA DE NIVEL		14AUG96		100			A	-
		MANT, VALVULA RECIRCULACION Y EQUIPO ASOCIADO								***************************************
		MANT, VALVULA BOTAR CONDENSADO Y EQUIPO ASOCIADO				-	-	100		***************************************
		MANT, VALYULA MAKE-UP Y EQUIPO ASOCIADO				100		400		1
16-10	THE BOOK 1	MARI, VALYULA MANE-UP I EQUIPU ABUULADU	0	13AUG96	18AUG98	100	AN I	1		1

Activity 445	AREA	Activity Denototial Co. 10 Sept. 10 Sep			Foliation		6.33		77.80°
ERPENT	***************************************					0.76	3 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
N17-00	PLNM	SERPENTINAS DE VAPOR	9	T	T	100	1		A
117-02	PLNM	MANTENIMIENTO REGULADORAS Y EQUIPO ASOCIADO	0	19AUG98	26SEP96	100			T.
ABAJO	SAOTR	AS SECCIONES	1		1	1	+		
N19-00	PLNM	APOYO A OTRAS SECCIONES	0	T	T	100	1		N
N19-02	PLNM	TRABAJOS GENERALES	0	02SEP96	17OCT98	100	1	Acquire and a	
PRECALE	NTADO	RES DE AIRE	1	1		1.00	+	$\overline{1}$	-
N20-00	PLNM	PRECALENTADORES DE AIRE	0	T	T	100	-		×
N20-02	PLNM	MANTENIMIENTO INDICADORES LOCALES	0	23SEP96	26SEP96	100	+	IST.	T
INSTALAC	ION TRI	FECTAS QUEMADORES NEUMATICA	1				 	+-+	-
N24-00	PLNM	QUEMADORES INT TRIFECTAS	0	T	T	100	1		AZ
N24-02	PLNM	REMOVER INTRUMENTACION DE QUEMADORES	0	06AUG98	08AUG98	100			. T
N24-04	PLNM	INT. INSTRUMENTACION VAL. TRIFECTAS FASE 1-4	0	12SEP96	-		ſ	Ammonie	
N24-05	PLNM	FACE 1 INT. ESQUINA 1-2 SECC NEWMATICA	0	04SEP96		100	-	be 27	1
N24-06		INSTALAR LINEAS PILOTO EN LOS QUEMADORES	0	18SEP96	27SEP96	100	1		
N24-07	PLIE	FACE 2 INTALACION ESQ. 3-4 SECC. NEUM.	0	13SEP96	27SEP98	100	-		-
N24-08		INTALACION DE MANOMETROS	0	23SEP96	27SEP96	100	-	-	
N24-09	PLIE	FACE 3 INT. CONECC. EQUIPO PRUEBA LOG. SECC.NEUM	0	23SEP96	27SEP98	100	1		
N24-10		PRUEBAS DE VALVULAS TRIFECTAS	0	15OCT98	1	100	-	A	M
SISTEMA :				1000130	1700196	100			ANI
N26-00	_	SISTEMA SOPLADO	0	T	T	100	1		
N26-02		MANT, VALVULA REGULADORA Y EQUIPO ASOCIADO	0	09AUG96	10AUG96	100	M		7
N26-04		MANT, VALVULA ADMISION DE VAPOR A PRECALENTADOR	0	10AUG96		100	E		
N25-06		INT. TERMAL DRAW SIST, SOPLADO	0	24SEP96		100	-	has	
ESTACION			•	14021 84	2300130	100	<u> </u>	AST	No contracting to
V32-00	-	ESTACION REDUCTORA	0	T		100	1		X
32-02		MANTENIMIENTO REGULADORA 1970/210 Y EQUIPO ASOC.	0	05AUG96	08AUG96	100	27		
132-04		MANTENIMIENTO REGULADORA 560/220 Y EQUIPO ASOC.	0	07AUG96		100	2		
N32-08		MANTENIMIENTO REGULADORA ATEMPERACON EQUIPO	0	10AUG96		100	M		
		INATI ETIMIENTO REGOLADOTA ATEMPENADOTI ENCOTO		1040000	1440036	100	AN	-	
N34-00	*	DESAEREADOR	0	T	T	100			X
N34-02		MANT. VALVULA HIG & LOW RANGE Y EQUIPO ASOCIADO	0	22411698	24AUG98	- 5255	W		7
N34-06	1	MANTENIMIENTO Y CONTROL VALVULA DE RECIRCULACION	0		22AUG96	100	I		
	1	JLAR GASES		20710-000	127,0000		-		-
N36-00		ABANICO DE RECIRCULACION DE GASES	0	Ι	Ι	100			
N36-02		REEMPLAZO DEL ACTUADOR DE ALABES DE CONTROL	0	07SEP96	16SEP96	100		1997	T
N36-04	PLNM	REEMPLAZO DEL ACTUADOR DE ALABES DE CIERRE	0	20AUG96	23AUG96	100	M		
N36-06	PLNM	MANT. MECANISMO ACTUADOR COMPUERTA DE SELLO	0		17SEP96	100		X	
BANICO F									-
N37-00		ABANICOS FORZADOS	0			100			- 2
N37-02		REEMPLAZO DE LOS ACTUADORES DE ALABES DE	0	28AUG96	05SEP96	100	4	27	T
N37-04		CAMBIO LINEAS NEUMATICAS EQUIPO ASOCIADO ALABES	0	12SEP96	17SEP96	100		197	
N37-06		REEMPLAZO DE ACTUADORES DE ALABES DE CIERRE	0	12SEP96	15OCT96	100		AVERAGE	HAY
OMBA DE									-
N38-00		BOMBAS DE CIRCULACION	0			100			X
N38-02	PLNM	CHEQUEO Y/O ARREGLO DE LINEAS DE AGUA DE SELLO	0	19AUG96	22AUG96	100	1		T
N38-04	PLNM	MANTENIMIENTO INDICADORES LOCALES	0	20AUG96	22AUG96	100			
IST. AGUA						-		-+	-+
N40-00		SISTEMA DE AGUA DE ALIMENTAR	0			100			N
A		MANT, VALVULA ALIMENTAR Y EQUIPO ASOCIADO	0	23AUG96	28AUG96	100	AST		T
40-02		MANT, VALVULA DESVIO Y EQUIPO ASOCIADO	0		15AUG96	100			
10-02							100		
10-04		MANTENIMIENTO VALVULAS DE RECIRCULACION	0	09AUG96	10AUG96	100		1	1 1
-	PLNM	MANTENIMIENTO VALVULAS DE RECIRCULACION MANTENIMIENTO INSTRUMENTACION LOCAL BOMBAS	0	09AUG96	10AUG98	100	1	S	

Activity	AREA	Activity Deposition with the second s	Pen	L Lary	Emy.	Con.	AUG	1 36	Log
N42-02	PLNM	REGULADORA 220/20 (DIA)	0	28AUG96			520000000000000000000000000000000000000		
N42-04	PLNM	REMPLAZO TERMOMETRO Y MANOMETRO	0	23SEP96	15OCT96	100)		
V42-06	PLNM	TORRE DE SECADO DE AIRE	0	04OCT96				-	A 2007
142-08		INSTALACION REG. VAPOR CALENTADO PETROLEO	8	 	+	100			X
N42-10	1	MANT. CONTROL NIVEL Y REG. TANQUE EVAPOR. A.P.	8	-	-	100			- X
N42-12		MANT. CONTROL NIVEL Y REG. TANQ. EVAP. BAJA P.	0	+	+	100			Ž.
PRUEBAS	DE OPE	RACIONES				1.00	+	-	74
010-00	OPER	PRUEBAS DE OPERACIONES	0	22OCT96	21OCT96	0	+	İ	X
010-02	OPER	FOGUEO DE QUEMADORES	35	23OCT96			-		N
010-04	OPER	PRUEBAS DE SOPLETES	0	14OCT96		_	\dashv		77
010-06	OPER	MOTOR BOMBA DC	0	14OCT96	15OCT96			i	I
010-08	OPER	BUNKER C PRUEBAS	0	01OCT96		1	_		27
010-10	OPER	BOMBA DE CIRCULACION 10-2 10-1	8	22OCT96		9	-		
010-12		PRUEBAS DE URANINE CONDENSADOR	16	22OCT96	24OCT96	0	-		
010-14		CONECTAR PORTA ESCOBILLAS GENERADOR	16	22OCT96	240CT96	0	4	1	
010-16		PRUEBAS DE TORRE DE ENFRIAMIENTO	8	22OCT96	23OCT96	0	4		A A A A A A A A A A
010-18		PRUEBAS DE G.R.F.	3	22OCT36	23OCT96	0	4		4
O10-20		DISPAROS DE VALVULAS	14	22OCT96	-	-	-		
O10-22	-	CALIBRAR VALVULAS DE LA TURBINA	0	14OCT96	24OCT96	0	-		
O10-24		AC PP 10-2	8	22OCT96	15OCT96	100	4	İ	X
010-26		PRUEBAS DE VACUM PPS	-		23OCT95	0	1	ĺ	7
010-28		GASIAR	3	22OCT96	23OCT96	0	1		4
RE SALI	1	- Control - Cont	8	22OCT96	23OCT96	0	-	ļ	翠
P10-00		ACTIVIDADES DE PRESALIDA	0			100	-		1277
P10-06		INSTALACION BASE, LINIAS Y EQUIPO TRIFECTAS	0	08JUL96	24SEP96	100	STATE OF THE PARTY	- Charles	
DESTAL	DELAN			COSTLIG	2436736	100		-	
10-00		DESARMAR PEDESTAL DELANTERO	0			100	-		
T10-02		REMOVER CUBIERTA PEDESTAL DELANTERO	0	12AUG96	12AUG96	100	×		
T10-04		REMOVER INTRUMENTACION ELECTRONICA	0	13AUG96		100	X		
T10-05		REMOVER INTRUMENTACION NEUMATICA	0		13AUG96	100	×		
EP. PDES				10/10/05/0	100030	100	-	-	
		INSPECCION Y REPARACION PEDESTAL DELANTERO	0	14AUG96	14AUG98	100	K		
T11-02		INSPECCION-REPARACION G.M.P.	0	14AUG96		100	X		
T11-04	APTB	INSPECCION ELECTRICA G.M.P.	0	15AUG96		100	X		
T11-06	APTB	INSPECCIONAR EJE EXTENSION	0	15AUG96		100	X		
T11-07	APTB	DESCONECTAR MECANISMO GIRO LENTO	0		21AUG96	100	I		
T11-08	APTB	DESARMAR-INSP-REPARAR MOTOR GIRO LENTO	0		18AUG96	100	X	 	
T11-10	APTB	INSP. COJINETE DE EMPUJE Y BUMP CHECK	0	03SEP96	04SEP98	100	-	207	
T11-11		ACONDICIONAR PARA MECANISMO GIRO LENT.MANUAL	0		16AUG96	100	M		
T11-12	APTB	INSPECCION-REP.MECANISMO GIRO LENTO	0		23AUG96	100			
T11-14	APTB I	INSPECCIONAR MECANISMO DE DISPARO DE EMERGENCIA	0			100	M		
T11-18		INSP. SUPERFICIE DESLIZAMIENTO PEDESTAL DELANTER	0			100		AN	
T11-18		NSPECCIONAR EJERCITADOR DEL GOV. DE EMERGENCIA	0			100	×	20-7	
T11-20		NSPECCIONAR MECANISMO DE REPOSICION DEL GATILLO	0			100	X		
T11-22		NSP. MECANISMO DISPARO BAJA PRESION ACEITE	-			100	X		
		LIMPIAR LINEAS ACEITE-INTER PEDESTAL DELANTERO				100	A	A-60	
		PRUEBAS NO DEST. CAJA GOB. DE SOBREVELOCIDAD				-			
RMAR PEL				TOOL DE	OGGET 80	100		X	
		ARMAR PEDESTAL DELANTERO	0	22OCT96	21OCT96	0			X
1		NSTALACION MECANISMO GIRO LENTO				100	M		48
		NST-ALINEAR EJE EXTESION Y G.M.P.		22AUG96		100			
		NSTALAR MECANISMO DISPARO DE EMERGENCIA	-				Z		
		NSTALAR MECANISMO DISPARO DE EMERGENCIA				100			
						100	M		
T12-12	APIB I	NSTALAR MECANISMO REPOSICION DEL GATILLO	0	14AUG96	15AUG98	100	Z		

AUDVILY PLANT	AREA	Authorities Description	Part Dur	F-1980	East at		aug:	Like	150	
T12-14	APTB	INSTALAR MECANISMO DISPARO BAJA PRESION ACEITE	0	15AUG96	16AUG96	100		* **		
T12-18	APTB	INSPECCIONAR SISTEMA EH Y AJUSTAR VALVULAS	1	17SEP96	22OCT96	95	1		10.00	7
T12-20	APTB	INSTALAR INTRUMENTACION	0	19SEP96	03OCT96	100	1	/esse	7	
12-22	APTB	INSTALAR CUBIERTA PEDESTAL DELANTERO	0	24SEP96	25OCT98	100	1	And the same		87
VALVULA	S VAPOR	R PRINCIPAL					-	-		-
T60-00		VALVULAS DE VAPOR PRINCIPAL	0	1	Ι	100	1		2	Z
T60-02	APTB	DESARMAR E INSPECCIONAR VALVULA VAPOR PRINCIPAL	0	07AUG96	09AUG96	100	M			
T60-04	APTB	MANT.Y REPARACION VALVULA VAPOR PRINCIPAL	0	09AUG96	22AUG96	100				
VALV. VA	POR REC	ALENTADO	L	1						
T61-00	APTB	VALVULAS DE VAPOR RECALETADO	0			100	1		X	7
T61-02	APTB	DESARMAR E INSP. VALVULAS VAPOR RECALENTADO	0	08AUG96		100	A			
T61-04	APTB	MANT.Y REPARACION VALVULAS VAPOR RECALENTADO	0	09AUG96	27SEP98	100	AMMEN	P Beschilly		
VALVULAS	S DE COI	NTROL	L						-	
T62-00	APTB	VALVULAS DE CONTROL	0			100	1		3	7
T62-02	APTB	DESARMAR E INSPECCIONAR VALVULAS DE CONTROL	0	08AUG98	22AUG98	100	A STATE OF THE PARTY OF THE PAR		1	
T62-04	APTB	MANT.Y REPARACION VALVULAS DE CONTROL	0	09AUG96	27SEP96	100	Lange	E STATE OF		
ARRANQU	E				L					
T90-04	APTB	ARRANQUE DE LA UNIDAD	1	29OCT96	29OCT96	0				M
T90-06	OPER	ENTREGA DE LA UNIDAD	0	29OCT96	29OCT96	0				V
VIDA UTIL										
V10-00	APCL	VIDA UTIL (VER MANUAL PROGRAMA DE INSPECCION)	0	09SEP96	13SEP96	100	İ			į
V10-02	APCL	CABEZAL SALIDA SOBRECALENTADOR	0	16SEP96	20SEP96	100				-
V10-04	APCL	EXAMENES ULTRASONIDO DET. DANOS INTERNOS TUBERIA	0	140CT96	21SEP96	100				7
V10-06	APCL	LINEA DE AGUA ALIMENTAR Y CABEZAL DE ENTRADA	3	21OCT98	28OCT96	100			-	7
V10-10	APCL	INSP. SOLDADURAS LINEAS VAPOR (INF. SR. PELMAS)	0	16SEP96	21SEP96	100		157		

IV. HARDWARE UPGRADE PROGRAM - WORKS NOT PERFORMED

The following items were determined to be installed, repaired or replaced in the Inspection and Analysis Program of the EPA - PREPA Consent Decree, but for the explained reason it was scheduled to be completed at a future date.

San Juan Unit 7

HARDWARE COMPONENT	CONDITION	REASON
Air Preheater 7-1	Severe deterioration of all Cold Side Baskets	The baskets required to be purchased. Since the time needed for installation exceeds the time available for the outage, they will be installed at the next extended outage after the arrival of the Baskets.
Air Preheater 7-2	Severe deterioration of three Cold side Baskets	The baskets required to be purchased. Since the time needed for installation exceeds the time available for the outage, they will be installed at the next extended outage after the arrival of the Baskets
Feedwater Heater 5	Unrepairable	Due to the extended construction time of the heater and the contracts required for installation it will be replaced at the next extended outage after its arrival.

San Juan Unit 8

HARDWARE COMPONENT	CONDITION	REASON				
Fuel Oil Heater Elements (Partial)	Unrepairable	Replacement elements require construction time from the manufacturer. They will be replaced on the next extended outage after their arrival.				

San Juan Steam Plants Units 9 and 10 had no works left pending as specified by the Inspection and Analysis and Hardware Upgrade Program.

APPENDIX C

ECONOMIZER SOOTBLOWER INSTALLATION PROGRAM

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

April 20, 1999

CERTIFIED MAIL P 235 571 950

Mr. Walter Mugdan U.S. Environmental Protection Agency Regional Counsel, Region II Office of Regional Counsel 290 Broadway New York, NY 10007-1866

Dear Mr. Mugdan:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Air Compliance Attachment, Section B.10.c of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the certification for the Economizer Sootblower Installation Program.

Cordially,

Environmental Law Division

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

April 20, 1999

CERTIFIED MAIL P 235 343 888

Ms. Lois Schiffer Chief, Environmental Enforcement Section U.S. Department of Justice Ben Franklin Station Washington, DC 20044

Dear Ms. Schiffer:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Air Compliance Attachment, Section B.10.c of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the certification for the Economizer Sootblower Installation Program.

-Cordially,

Environmental Law Division

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

April 20, 1999

CERTIFIED MAIL P 235 343 889

Mr. Andrew L. Praschak Region II, Caribbean Environmental Protection Division Centro Europa Bldg., Ste. 417 1492 Ponce de León Ave. Santurce, PR 00907

Dear Mr. Praschak:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Air Compliance Attachment, Section B.10.c of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the certification for the Economizer Sootblower Installation Program.

Cordially,

Eli Matos Alicea

Environmental Law Division

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

April 20, 1999

CERTIFIED MAIL P 235 343 890

Ms. Flaire Hope Mills
U.S. Environmental Protection Agency
Air Compliance Branch
Division of Enforcement and Compliance Assistant
290 Broadway
New York, NY 10007-1866

Dear Ms. Hope:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Air Compliance Attachment, Section B.10.c of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the certification for the Economizer Sootblower Installation Program.

Cordially,

Eli Matos Alice

Environmental Law Division

COSTA SUR



CERTIFICATION

ECONOMIZER SOOTBLOWER INSTALLATION PROGRAM

I certify to the best of my knowledge and belief, that four sootblowers have been installed and are operating at South Coast Power Plant's unit 3 prior to the completion dates established and required in the Consent Decree's Section V.10-b.

Roberto A. Volckers Electric System Director



CERTIFICATION

ECONOMIZER SOOTBLOWER INSTALLATION PROGRAM

I certify to the best of my knowledge and belief, that four sootblowers have been installed and are operating at South Coast Power Plant's unit 4 prior to the completion dates established and required in the Consent Decree's Section V.10-b.

Roberto A. Volckers Electric System Director



CERTIFICATION

ECONOMIZER SOOTBLOWER INSTALLATION PROGRAM

I certify to the best of my knowledge and belief, that two sootblowers have been installed and are operating at South Coast Power Plant's unit 5 prior to the completion dates established and required in the Consent Decree's Section V.10-b.

Roberto A. Volckers

Electric System Director



CERTIFICATION

ECONOMIZER SOOTBLOWER INSTALLATION PROGRAM

I certify to the best of my knowledge and belief, that two sootblowers have been installed and are operating at South Coast Power Plant's unit 6 prior to the completion dates established and required in the Consent Decree's Section V.10-b.

Roberto A. Volckers Electric System Director

PALO SECO

PUERTO RICO ELECTRIC POWER AUTHORITY ELECTRICAL SYSTEM DIRECTORATE



ECONOMIZER SOOTBLOWER INSTALLATION PROGRAM CERTIFICATION REPORT FROM PALO SECO STEAM PLANT TOA BAJA, PUERTO RICO

PREPARED FOR
U.S. ENVIRONMENTAL PROTECTION AGENCY
MARCH 1999

To the best of my knowledge and belief, the sootblowers have been installed and are operating at Palo Seco Steam Plant Unit 1.

To the best of my knowledge and belief, the sootblowers have been installed and are operating at Palo Seco Steam Plant Unit 2.

To the best of my knowledge and belief, the sootblowers have been installed and are operating at Palo Seco Steam Plant Unit 3.

To the best of my knowledge and belief, the sootblowers have been installed and are operating at Palo Seco Steam Plant Unit 4.

SAN JUAN

ECONOMIZER SOOTBLOWER INSTALLATION PROGRAM COMPLETION CERTIFICATION

I certify, to the best of my knowledge and belief, the sootblowers have been installed and are operating at San Juan Steam Plant Unit 7.

Roberto A. Volckers Electrical System Director

I certify, to the best of my knowledge and belief, the sootblowers have been installed and are operating at San Juan Steam Plant Unit 8.

Roberto A. Volckers Electrical System Director

I certify, to the best of my knowledge and belief, the sootblowers have been installed and are operating at San Juan Steam Plant Unit 9.

Roberto A. Volckers Electrical System Director

I certify, to the best of my knowledge and belief, the sootblowers have been installed and are operating at San Juan Steam Plant Unit 10.

AGUIRRE

ECONOMIZER SOOTBLOWER INSTALLATION PROGRAM - COMPLETION CERTIFICATION

I certify, to the best of my knowledge and belief, that two economizer sootblowers have been installed and are operating at Aguirre Steam Power Plant's Unit #1, prior to the completion dates established and required in the Consent Decree's Section V.10-b.

Roberto A. Volckers Electrical System Director

I certify, to the best of my knowledge and belief, that two economizer sootblowers have been installed and are operating at Aguirre Steam Power Plant's Unit #2, prior to the completion dates established and required in the Consent Decree's Section V.10-b.

APPENDIX D

BALANCE DRAFT CONVERSION PROGRAM

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

April 20, 1999

CERTIFIED MAIL P 235 571 950

Mr. Walter Mugdan
U.S. Environmental Protection Agency
Regional Counsel, Region II
Office of Regional Counsel
290 Broadway
New York, NY 10007-1866

Dear Mr. Mugdan:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Air Compliance Attachment, Section B.11.c of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the certification for the Balance Draft Conversion Program.

€ordially,

Environmental Law Division

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

April 20, 1999

CERTIFIED MAIL P 235 343 888

Ms. Lois Schiffer Chief, Environmental Enforcement Section U.S. Department of Justice Ben Franklin Station Washington, DC 20044

Dear Ms. Schiffer:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Air Compliance Attachment, Section B.11.c of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the certification for the Balance Draft Conversion Program.

Cordially,

Eli Matos Alidea

Environmental Law Division

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

April 20, 1999

CERTIFIED MAIL P 235 343 889

Mr. Andrew L. Praschak Region II, Caribbean Environmental Protection Division Centro Europa Bldg., Ste. 417 1492 Ponce de León Ave. Santurce, PR 00907

Dear Mr. Praschak:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Air Compliance Attachment, Section B.11.c of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the certification for the Balance Draft Conversion Program.

Cordially,

Ií Matos Aligea

Environmental Law Division

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

April 20, 1999

CERTIFIED MAIL P 235 343 890

Ms. Flaire Hope Mills
U.S. Environmental Protection Agency
Air Compliance Branch
Division of Enforcement and Compliance Assistant
290 Broadway
New York, NY 10007-1866

Dear Ms. Hope:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Air Compliance Attachment, Section B.11.c of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the certification for the Balance Draft Conversion Program.

Cordially,

Environmental Law Division

PALO SECO

PUERTO RICO ELECTRIC POWER AUTHORITY ELECTRICAL SYSTEM DIRECTORATE



BALANCED DRAFT CONVERSION PROGRAM CERTIFICATION REPORT FROM PALO SECO STEAM PLANT TOA BAJA, PUERTO RICO

PREPARED FOR U.S. ENVIRONMENTAL PROTECTION AGENCY MARCH 1999

To the best of my knowledge and belief, Palo Seco Unit 3 has completed conversion pursuant to paragraph B.11 of the Air Compliance Attachment of the Consent Decree on September 1993.

To the best of my knowledge and belief, Palo Seco Unit 4 has completed conversion pursuant to paragraph B.11 of the Air Compliance Attachment of the Consent Decree on March 1992.

SAN JUAN

BALANCED DRAFT CONVERSION PROGRAM SAN JUAN STEAM PLANT PROGRAM COMPLETION CERTIFICATION

I certify, to the best of my knowledge and belief, that the San Juan Steam Plant Unit 7 has completed conversion pursuant to paragraph B.11 of the Air Compliance Attachment of the Consent Decree on July, 1994.

Roberto A. Volckers Electrical System Director

I certify, to the best of my knowledge and belief, that the San Juan Steam Plant Unit 8 has completed conversion pursuant to paragraph B.11 of the Air Compliance Attachment of the Consent Decree on January, 1995.

Roberto A. Volckers Electrical System Director

I certify, to the best of my knowledge and belief, that the San Juan Steam Plant Unit 9 has completed conversion pursuant to paragraph B.11 of the Air Compliance Attachment of the Consent Decree on February, 1997.

Roberto A. Volckers Electrical System Director

I certify, to the best of my knowledge and belief, that the San Juan Steam Plant Unit 10 has completed conversion pursuant to paragraph B.11 of the Air Compliance Attachment of the Consent Decree on October, 1996.

Roberto A. Volckers Electrical System Director

APPENDIX E

OPACITY MONITOR INSTALLATION PROGRAM

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

April 20, 1999

CERTIFIED MAIL P 235 571 950

Mr. Walter Mugdan U.S. Environmental Protection Agency Regional Counsel, Region II Office of Regional Counsel 290 Broadway New York, NY 10007-1866

Dear Mr. Mugdan:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Air Compliance Attachment, Section B.12.e of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the certification for the Opacity Monitor Installation Program.

Cordially,

Elí Matos Aligea

Environmental Law Division

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

April 20, 1999

CERTIFIED MAIL P 235 343 888

Ms. Lois Schiffer Chief, Environmental Enforcement Section U.S. Department of Justice Ben Franklin Station Washington, DC 20044

Dear Ms. Schiffer:

RE: DOJ Case No. 90-5-2-1-1750

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Cordially,

Environmental Law Division

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

April 20, 1999

CERTIFIED MAIL P 235 343 889

Mr. Andrew L. Praschak Region II, Caribbean Environmental Protection Division Centro Europa Bldg., Ste. 417 1492 Ponce de León Ave. Santurce, PR 00907

Dear Mr. Praschak:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Air Compliance Attachment, Section B.12.e of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the certification for the Opacity Monitor Installation Program.

Cordially,

Eli Matos Alicea

Environmental Law Division

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

April 20, 1999

CERTIFIED MAIL P 235 343 890

Ms. Flaire Hope Mills
U.S. Environmental Protection Agency
Air Compliance Branch
Division of Enforcement and Compliance Assistant
290 Broadway
New York, NY 10007-1866

Dear Ms. Hope:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Air Compliance Attachment, Section B.12.e of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the certification for the Opacity Monitor Installation Program.

Cordially,

Elí Matos Aliceá

Environmental Law Division

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REGIONAL COUNSEL, F	REGION II
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P 235 343 889

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SAN JUAN

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM SAN JUAN STEAM PLANT

To the best of my knowledge and belief:

- a new opacity monitor has been installed at the stack of Unit 7-1 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on April 2, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM SAN JUAN STEAM PLANT

To the best of my knowledge and belief:

- a new opacity monitor has been installed at the stack of Unit 7-2 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on April 3, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM SAN JUAN STEAM PLANT

To the best of my knowledge and belief:

- a new opacity monitor has been installed at the stack of Unit 8-1 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on March 20, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM SAN JUAN STEAM PLANT

To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 8-2 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on March 24, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM SAN JUAN STEAM PLANT

To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 9-1 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on April 11, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM SAN JUAN STEAM PLANT

To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 9-2 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on April 14, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM SAN JUAN STEAM PLANT

.To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 10-1 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on April 7, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM SAN JUAN STEAM PLANT

To the best of my knowledge and belief:

- a new opacity monitor has been installed at the stack of Unit 10-2 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on April 8, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

PALO SECO

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM PALO SECO STEAM PLANT

To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 1 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on June 15, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM PALO SECO STEAM PLANT

To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 2 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on June 12, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM PALO SECO STEAM PLANT

To the best of my knowledge and belief:

- a new opacity monitor has been installed at the stack of Unit 3-1 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on May 6, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM PALO SECO STEAM PLANT

To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 3-2 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on May 8, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM PALO SECO STEAM PLANT

To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 4-1 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on May 15, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

NOTE: The field certification was issued on February 5, 1999 by the factory.

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM PALO SECO STEAM PLANT

To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 4-2 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on May 13, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

NOTE: The field certification was issued on February 5, 1999 by the factory.

COSTA SUR

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM SOUTH COAST STEAM PLANT

To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 1 (duct) in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on September 2, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM SOUTH COAST STEAM PLANT

To the best of my knowledge and belief:

- a new opacity monitor has been installed at the stack of Unit 2 (duct) in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on August 27, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM SOUTH COAST STEAM PLANT

To the best of my knowledge and belief:

- a new opacity monitor has been installed at the stack of Units 1 + 2 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on August 13, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

San Juan, Puerto Rico





P O Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM SOUTH COAST STEAM PLANT

To the best of my knowledge and belief:

- a new opacity monitor has been installed at the stack of Unit 3 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on September 29, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuous Monitoring Program, such monitor has been performance tested from March 29, 1999 to April 5, 1999, in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated pursuant to paragraph B.6.e of the Air Compliance Attachment. At this moment, we are waiting for the expedition of the field certification by the manufacturer.

Roberto A. Volckers

Electric System Director

San Juan, Puerto Rico





P O Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM SOUTH COAST STEAM PLANT

To the best of my knowledge and belief:

- a new opacity monitor has been installed at the stack of Unit 4 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on September 15, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- an alarm has been installed in the control room for such monitor; and
- 3. Performance Test for the opacity monitors of Unit No. 4 has not been conducted because Unit No. 4 has been out of service due to a forced outage since May 31, 1998. The unit is expected to be in operation by May 29, 1999, when we plan to conduct the performance test for said opacity monitors in accordance with paragraph B.6.d of the Consent Decree. As a result, force majeure was claimed for this incident in accordance to Article XX, Section 124 of the Consent Decree.

Roberto A. Volckers Electric System Director

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM SOUTH COAST STEAM PLANT

To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 5-1 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on March 13, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

NOTE: The field certification was issued on December 2, 1998.

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM SOUTH COAST STEAM PLANT

To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 5-2 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on March 13, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

NOTE: The field certification was issued on December 2, 1998.

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM SOUTH COAST STEAM PLANT

To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 6-1 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on May 21, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

NOTE: The field certification was issued on December 3, 1998.

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM SOUTH COAST STEAM PLANT

To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 6-2 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on May 27, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

NOTE: The field certification was issued on December 2, 1998.

AGUIRRE

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM AGUIRRE STEAM PLANT

To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 1-1 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on July 24, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM AGUIRRE STEAM PLANT

To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 1-2 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on July 31, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

NOTE: The field certification was issued on April 6, 1999 by the factory.

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM AGUIRRE STEAM PLANT

To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 2-1 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on July 16, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers Electric System Director

NOTE: The field certification was issued on April 7, 1999 by the factory.

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

OPACITY MONITOR INSTALLATION PROGRAM AGUIRRE STEAM PLANT

To the best of my knowledge and belief:

- 1. a new opacity monitor has been installed at the stack of Unit 2-2 in accordance with the Opacity Monitor Installation Program of Section V of the Consent Decree on July 24, 1998 and such monitor is being operated pursuant to the Continuous Monitoring Program and Operations and Preventive Maintenance Programs;
- 2. an alarm has been installed in the control room for such monitor; and
- 3. in accordance with the Continuos Monitoring Program, such monitor has been performance tested in accordance with the paragraph B.6.d of the Air Compliance Attachment and calibrated in accordance with paragraph B.6.e of the Air Compliance Attachment.

Roberto A. Volckers
Electric System Director

NOTE: The field certification was issued on April 7, 1999 by the factory.

APPENDIX F

INDEPENDENT AIR COMPLIANCE AUDITOR



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF REGIONAL COUNSEL CENTRO EUROPA BUILDING, SUITE 207 1492 PONCE DE LEON AVENUE, STOP 22 SAN JUAN, PR 00907-4127 7. Toped

Certified Mail-Return Receipt Requested

July 20, 1999

Mr. Eli Matos Head Environmental Law Division Puerto Rico Electric Power Authority P.O. Box 364267 San Juan, Puerto Rico 00936-4267

Re: <u>U.S. v. PREPA</u> Consent Decree Compliance Civil Action No. 93-2527 Written Authorization to Proceed with R.W. Beck as Independent Air Compliance Auditor

Dear Mr. Matos:

On or about May 14, 1999, PREPA notified EPA, in writing of the name, title and qualifications of three proposed contractors which it considered capable of performing the functions of the Air Compliance Monitor, pursuant to Section V.E. of the Consent Decree.

Pursuant to the terms of this Section of the Consent Decree, EPA is required to provide PREPA a written Authorization to Proceed or a written Notification of Deficiency with respect to each contractor that PREPA proposed.

The information provided by PREPA in the May 14 submission has been evaluated by a team of Air Program experts from EPA's Caribbean Environmental Protection Division, in consultation with representatives from EPA's Air Compliance Branch. These evaluations were performed using primarily the following criteria:

- the terms of Section V.E. of the Consent Decree;
- the qualifications required of the Air Compliance Auditor as well as the outline of tasks to be performed by it, as specified in Section D. 1. and D.2. of the Air Compliance Attachment to the Consent Decree;
- the written material submitted by PREPA; in particular the written qualifications prepared by each contractor.

Based on this review, EPA is hereby forwarding the following determinations with respect to each of the proposed contractors:

Gayá & Asociados:

Notification of Deficiency

Vicenty, Heres y Lauria:

Notification of Deficiency

R.W. Beck:

Authorization to Proceed

The basis for the Notice of Deficiency with respect to Gayá & Asociados is the absence of documentation regarding expertise in the areas specified in Sections D.1.a. through D.1.g. of the Air Attachment to the Decree.

The basis for the Notice of Deficiency with respect to Vicenty, Heres y Lauria is the lack of detail concerning how the consultant would coordinate the work of the two identified subconsultants. From the documentation provided, there is limited documentation regarding direct expertise of the prime contractor in the areas specified in Sections D.1.a. through D.1.g. of the Air Attachment. This implies that heavy reliance would be placed upon the two subconsultants; thus, coordination of their respective roles and inputs would be of central importance.

Concerning the Authorization to Proceed with respect to R.W. Beck, EPA notes that in order to properly fulfill the requirements of this Section of the Consent Decree, the company must utilize for this project individual employees with the requisite qualifications enumerated in Sections D.1.a. through D.1.g. of the Air Attachment. Also, to perform the required biweekly visible emissions (VE) monitoring, the consultant must employ one or more individuals properly certified under EPA Reference Method 9 to perform such monitoring. In particular, it will be essential that the VE observer(s) record the opacity of plumes at their densest point, as we have previously discussed with PREPA. (In this connection, I am enclosing a copy of a recent letter from Mr. Thomas Logan of EPA's Office of Air Quality Planning and Standards to PREPA's Mr. Asbel Escribano. We recommend that PREPA provide a copy of this letter to the Independent Air Compliance Auditor.)

We advise, further, that if selected, R.W. Beck maintain a more consistent, local presence in Puerto Rico than is suggested by the documents submitted to EPA, in order to comply with the letter and the spirit of the requirements of the applicable sections of the Consent Decree.

It is important to note that EPA is not at this time commenting on the adequacy of the proposed Scope of Work and Schedule of Work provided with the R.W. Beck submission. Rather, PREPA is hereby notified that the work performed by the Air Compliance Auditor must conform to all requirements specified in the Consent Decree. Nonetheless, immediately upon compliance with the requirement that PREPA contract with the Independent Air Compliance Auditor, pursuant to Section V.E.4. of the Consent Decree, EPA will be seeking a technical meeting with this Auditor to advise it and PREPA of the specifics of what constitutes compliance with the implementation of the Independent Air Compliance Auditor Program, as detailed in the Consent Decree. At such meeting we would request that the contractor identify the key personnel to be involved in implementation of the contract and the pertinent expertise and experience of those employees.

The above Notifications of Deficiency and Authorization to Proceed are provided by EPA pursuant to its responsibility under the terms of the Consent Decree and are in no way intended to constitute either a positive or a negative evaluation, by EPA or the United States of the qualifications of these contractors for any other purpose, task or contract. Rather, EPA has made these determinations based solely on the adequacy, completeness and the relevance of the information provided by PREPA in its May 14, 1999 submission to EPA as well as the terms of the Consent Decree.

Pursuant to the terms of Section V.E.3. of the Consent Decree, within twenty days of receipt of this written Authorization to Proceed from EPA, PREPA shall select an Air Compliance Auditor with respect to which EPA has granted an Authorization to Proceed and PREPA shall notify EPA in writing of its selection.

In addition, pursuant to Section V.E.4. of the Consent Decree, within 120 days of receipt of this written Authorization to Proceed from EPA, PREPA shall contract with the Independent Air Compliance Auditor for the purposes of complying with the relevant terms of the Consent Decree.

If you have any questions about this determination by EPA please feel free to contact me at 729-6951.

Frukak

Sincerely yours,

Andrew L. Praschak

Associate Regional Counsel

Enclosure

cc:

W. Mugdan, ORC (via e-mail)

C. Soderberg, CEPD (via e-mail)

H. Vélez, ORC (via e-mail)

F. Mills, ORC

J. Aponte, CEPD

H. Patel, DECA

D. Wright, EPA

E. Ziegler, DECA

P. Flynn, DOJ

M. Cordero, PREPA

J. Segurola, PREPA

F. López, PREPA

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

November 18, 1999

CERTIFIED MAIL Z 356 691 278

Mr. Walter Mugdan U.S. Environmental Protection Agency Regional Counsel, Region II Office of Regional Counsel 290 Broadway New York, NY 10007-1866

Dear Mr. Mugdan:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Article V, Section E of the Consent Decree between the Puerto Rico Electric Power Authority and the United States of America entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, we have contracted RW Beck as Independent Air Compliance Auditor.

If you have any questions on this matter, you may contact us at above letterhead address or call (787) 289-4959 or 4960.

Cordially,

Environmental Protection and Quality Assurance Division

Enclosures

SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

November 18, 1999

CERTIFIED MAIL Z 356 691 280

Mr. Andrew L. Praschak
US Environmental Protection Agency
Region II, Caribbean Environmental Protection
Division
Centro Europa Bldg., Suite 417
1492 Ponce De León Ave.
Santurce, PR 00907

Dear Mr. Praschak:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Article V, Section E of the Consent Decree between the Puerto Rico Electric Power Authority and the United States of America entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, we have contracted RW Beck as Independent Air Compliance Auditor.

If you have any questions on this matter, you may contact us at above letterhead address or call (787) 289-4959 or 4960.

Cordially,

Francisco E. Lopez, Head Environmental Protection and Quality Assurance Division

Enclosures

 Lois J. Schiffer, US Department of Justice Walter Mugdan, USEPA

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

November 18, 1999

CERTIFIED MAIL Z 356 691 279

Ms. Lois J. Schiffer
Chief, Environmental Enforcement Section
Environment and Natural Resources Division
US Department of Justice
PO Box 7611
Ben Franklin Station
Washington, DC 20044

Dear Ms. Schiffer:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Article V, Section E of the Consent Decree between the Puerto Rico Electric Power Authority and the United States of America entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, we have contracted RW Beck as Independent Air Compliance Auditor.

If you have any questions on this matter, you may contact us at above letterhead address or call (787) 289-4959 or 4960.

Cordially,

Francisco E. Lopez, Head Environmental Protection and

Quality Assurance Division

Enclosures

APPENDIX G

CLEAN WATER ACT COMPLIANCE PROGRAM

Consent Decree Clean Water Act Compliance Program Status Report as of March 19, 1999
1996-1998 Compliance Deadlines - San Juan Power Plant Consent Decree Version of January 26, 1998
Page 1 of 5

ITEM	Н	N	ω	.42	G	0
DEADLINE	11/22/96	12/2/96	1/31/97	1/31/97	1/31/97	3/18/97
COMPLIANCE PROJECT	Wastewater Treatment Plant (IWS 003A)	Wastewater Treatment Plant (IWS 003A)	Minor Thermal Streams (Outfall 003)	Wastewater Treatment Plant (IWS 003A), Post-Treatment project to achieve compliance with NPDES permit limitations.	Air Preheater Wastwater Sump Improvements (Outfalls 002 and 003)	Automatic pH Control System for Cooling Tower (IWS 001D)
	e.(1)	e. (2)	h.(1)	e.(2)(a)	g.(1)	b.
COMPLIANCE ACTION	Complete wastewater treatment plant optimization.	Submit wastewater treatment plant status report to EPA, and achieve compliance with NPDES permit limitations applicable at IWS 003A.	Complete investigation and assessment at outfall 003, and recommend thermal control corrective measures.	Submit plans and specifications.	Complete assessment and investigation, and recommend corrective measures.	Complete construction.
STATUS	Completed on 11/22/96.	Completed on 12/02/96.	Completed on 1/22/97.	Completed on 1/31/97.	Completed on 11/14/96.	Completed on 3/18/97.

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13	12	11	10	v	ω	7	~ITE14	
12/5/97	9/30/97	7/31/97	5/31/97	5/31/97	4/19/97	4/18/97	DEADLINE	
Wastewater Treatment Plant (IWS 003A), Post-Treatment project to achieve compliance with NPDES	Fuel Oil Heater Cooling System pH Control (Outfall 003)	Metal Scrap Storage Facility (Outfalls 001, 002 and 003)	Minor Thermal Streams (Outfall 003)	Air Preheater Washwater Sump Improvements (Outfalls 002 and 003)	Re-Direction of Low pH Cooling Tower Slowdown to Wastewater Treatment Plant (IWS 001D)	Fuel Oil Heater Cooling System pH Control (Outfall 003)	COMPLIANCE PROJECT	
e.(2)(b)	1.(2)	k.(1)	h.(2)	g. (2)	Ω.	i.(1)		
Commence construction of the post-treatment project.	Prepare and submit plans and specifications.	Prepare and submit plans and specifications.	Prepare and submit plans and specifications.	Prepare and submit plans and specifications.	Complete project.	Complete investigation assessment, and recommend control measures.	COMPLIANCE ACTION	
Completed on 12/5/97.	Completed on 9/30/97.	Completed on 7/31/97.	Completed on 5/30/97.	Completed on 5/30/97.	Completed on 4/19/97.	Completed on 4/18/97.	STATUS	

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TEM	ITEM DEADLINE	COMPLIANCE PROJECT		COMPLIANCE ACTION	STATUSL
14	1/31/98	Air Preheater Washwater Sump Improvements (outfalls 002 and 003)	g.(3)	Complete installation and startup.	completed on 1/28/98.
15	4/30/98	Plant Drainage System (IWS 001C)	ب	Complete plant drainage/oil separator improvements and modifications.	completed on 3/22/99.
16	4/30/98	Minor Thermal Streams (Outfall 003)	h. (3)	Complete construction and installation.	Completed on 4/29/98.
17	5/1/98	Outfall 001 Compliance	d. (2)	Achieve compliance with NPDES permit effluent limitations at Outfall 001 with respect to Plant Drainage.	completed on 3/22/99.
18	6/30/98	Wastewater Treatment Plant (IWS 003A), Post-Treatment project to achieve compliance with NPDES permit limitations.	e.(2)(c)	Complete construction of the post-treatment project.	Project completed on 12-11-98.

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(ITEM	DEADLINE 6/30/98	Scrap	k. (2)	1
. 19	6/30/98	Metal Scrap Storage Facility (Outfalls 001, 002 and 003)	k. (2)	Complete construction.
20	7/1/98	Outfall 001 Compliance	d.(3)	Achieve compliance with NPDES permit effluent limitations at Outfall for Metal Scrap Storage Project.
21	8/31/98	Wastewater Treatment Plant (IWS 003A), Post-Treatment project to achieve compliance with NPDES permit limitations.	e.(2)(d)	Achieve compliance with NPDES permit effluent limitations applicable IWS003A.
22	9/1/98	Outfall 002		Achieve compliance with NPDES permit effluent limitations at Outfall

1996-1998 Compliance Deadlines - San Juan Power Plant Consent Decree Clean Water Act Compliance Program Consent Decree Version of January 26, 1998 Status Report as of March 19, 1999

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	25	24	23	ITEM 1L
	Last Effective Date*	10/1/98	9/30/98	DEADLINE
	Outfall 001 Compliance	Outfall 003	Fuel Oil Heater Cooling System pH Control (003)	COMPLIANCE PROJECT
+ Wata	d. (1)	<u>.</u>	1.(3)	
	Achieve compliance with NPDES permit effluent limitations at outfall 001 with respect to Temperature.	Achieve compliance with NPDES permit effluent limitations at outfall 003.	Complete construction and installation.	COMPLIANCE ACTION
	Thermal Variance Request granted in the San Juan NPDES Draft Permit.	completed on 9/1/99.	completed on 9/14/99.	STATUS

The Last Effective Date will be identified upon EPA's final determination regarding PREPA's Section 316 variance request. Such determination, and any challenge to such determination, shall be made pursuant to the applicable procedures set forth in the Clean Water Act and the regulations promulgated thereunder.

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TTEM	DEADLINE	COMPLIANCE PROJECT		COMPLIANCE ACTION!	STATUS
1	11/30/96	Wastewater Treatment Plant (IWS 00101)	q. (1)	Complete re-routing of polisher wastewater to Equalization Tank No. 3 at Wastewater Treatment Plant.	Completed on 11/22/96.
22	12/31/96	Minor Thermal Streams (001B)	m. (1)	Complete investigation and assessment at Outfall 001B, and recommend corrective measures, including zero discharge.	Completed on 9/02/96.
ω	12/31/96	Wastewater Treatment Plant (IWS 00101)	q. (2)	Complete assessment and submit Wastewater Treatment Plant Status Report for IWS 001C1, and achieve compliance with NPDES permit effluent limitations at IWS 001C1.	Completed on 12/31/96.
4	1/31/97	Minor Thermal Streams (001C)	p.(1)	Complete investigation and assessment at Outfall 001c, and recommend thermal control corrective measures.	completed on 1/31/97.
ъ	4/1/97	Minor Thermal Streams (OOlB)	m. (2)	Prepare and submit plans and specifications.	Completed on 4/1/97.
0	4/18/97	Fuel Oil Heater Cooling System pH Control (001C)	0.(1)	Complete investigation and assessment, and recommend control measures.	Completed on 4/18/97.

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hermal Streams (001C) p.(2) crap Storage Facility t.(1) ls 001A, 001B, 001C l Heater Cooling pH Control (001C) hermal Streams m.(3) 1 001B) ter Treatment Plant q.(2)(b) 001B Compliance n.(1)	IITEM	DEADLINE		q. (2) (a)	COMPLIANCE ACTI	ACTION
5/31/97 Minor Thermal Streams (001C) p.(2) 7/31/97 Metal scrap Storage Facility t.(1) (Outfalls 001A, 001B, 001C and 002) 8/31/97 Fuel Oil Heater Cooling System pH Control (001C) 3/31/98 Minor Thermal Streams (Outfall 001B) 3/31/98 Wastewater Treatment Plant (OO1C1) 4/1/98 Outfall 001B Compliance n.(1)	7	4/30/97	Wastewater Treatment Plant (001c1)	q. (2) (a)	Prepare and submi specifications.	C
7/31/97 Metal scrap Storage Facility t.(1) (Outfalls 001A, 001B, 001C and 002) 8/31/97 Fuel Oil Heater Cooling System pH Control (001C) 3/31/98 Minor Thermal Streams (Outfall 001B) 3/31/98 Wastewater Treatment Plant (OO1C1) 4/1/98 Outfall OO1B Compliance n.(1)	ω	5/31/97			Prepare and submit specifications.	omit plans and .
8/31/97 Fuel Oil Heater Cooling O.(2) System pH Control (001C) 3/31/98 Minor Thermal Streams m.(3) (Outfall 001B) 3/31/98 Wastewater Treatment Plant q.(2)(b) (OOlCl) 4/1/98 Outfall OOlB Compliance n.(1)	- 6	7/31/97	scrap Storage alls 001A, 0011 02)		and	submit plans and ons.
3/31/98 Minor Thermal Streams m.(3) (Outfall 001B) 3/31/98 Wastewater Treatment Plant q.(2)(b) (OO1C1) 4/1/98 Outfall OO1B Compliance n.(1)	10	8/31/97	Fuel Oil Heater Cooling System pH Control (001C)	0.(2)	Prepare and submit specifications.	mit plans and
3/31/98 Wastewater Treatment Plant q.(2)(b) (OOICI) 4/1/98 Outfall OOIB Compliance n.(1)	11	3/31/98		m. (3)	Complete construction installation.	ruction and
4/1/98 Outfall OO1B Compliance n.(1)	12	3/31/98	Treatment	q. (2) (b)		construction and
	Ľω	4/1/98	Outfall OO1B Compliance	n.(1)	Achieve complian permit effluent Outfall OO1B for Streams Project.	Achieve compliance with NPDES permit effluent limitations at Outfall OO1B for Minor Thermal Streams Project.

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ITEM i	DEADLINE	COMPLIANCE PROJECT		COMPLIANCE ACTION
14	4/30/98	Metal Scrap Storage Facility (Outfalls 001A, 001B, 001C and 002)	t.(2)	Complete construction.
15	5/1/98	Outfall OO1A Compliance	1.	Achieve compliance with NPDES permit effluent limitations at Outfall 001A.
16	5/1/98	Outfall 001B Compliance	n.(2)	Achieve compliance with NPDES permit effluent limitations at Outfall OO1B for Metal Scrap
				Storage Project.
17	5/1/98	Outfall 002 Compliance	ů.	Achieve compliance with NPDES permit effluent limitations at Outfall 002.
18	5/31/98	Wastewater Treatment Plant (001C1)	q. (2) (c)	Achieve compliance with NPDES permit effluent limitations at Outfall 001C.

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			Н
21	20	19	ITEM
10/1/98	9/30/98	5/31/98	DEADLINE
Outfall 001C Compliance	Fuel Oil Heater Cooling System pH Control (001C)	Minor Thermal Streams (001C) p.(3)	COMPLIANCE PROJECT
, ,	0.(3)	p. (3)	
Achieve compliance with NPDES permit effluent limitations at Outfall 001C.	Complete construction and installation.	Complete construction and installation.	COMPLIANCE ACTION
completed on 5/24/99.	completed on 5/24/99.	Completed on 5/28/98.	STATUS

Consent Decree Clean Water Act Compliance Program Status Report as of March 19, 1999.

1896-1998 Compliance Deadlines - Aguirre Power Complex Consent Decree Version of January 26, 1998

L	8	7	თ	(J)	4.	ω	22	Н	(ITEM
	4/30/97	4/1/97	4/1/97	4/1/97	3/31/97	1/02/97	12/31/96	12/31/96	DEADLINE
	Minor Thermal Streams (Outfall 002)	Settling Basin Modifications (Outfall 004)	Wastewater Treatment Plant (IWS 003a)	Air Preheater Sump (Outfall 002)	Minor Thermal Streams (Outfall 004)	Toxicity Testing	Boiler Blowoff Recovery (Outfall 004)	Boiler Blowoff Recovery (Outfall 002)	COMPLIANCE PROJECT
	y.(1) Complete investigation and assessment at outfall 002, and recommend thermal control corrective measures.	gg.(1) Prepare and submit plans and specifications for redesign.	cc.(1) Submit plans and specifications for final effluent process adjustment	z.(1) Prepare and submit plans and specifications for repairs/reconstruction.	ff.(1) Complete investigation and assessment at outfall 004, and recommend thermal control corrective measures.	jj. Commence sampling	ee. Complete corrective measures	X. Complete corrective measures	COMPLIANCE ACTION
	Completed on 1/24/97.	Completed on 4/01/97.	Completed on 4/01/97.	Completed on 4/01/97.	Completed on 3/11/97.	Completed on 1/02/97	Completed on 12/31/96	Completed on 12/31/96	STATUS

Consent Decree Clean Water Act Compliance Program
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1896-1998 Compliance Deadlines - Aguirre Power Complex
Consent Decree Version of January 26, 1998

]) WETI	DEADLINE	COMPT TAMOS		COMPLIANCE ACTION	STATUS
٥	4/30/97	Fuel Oil Heater Cooling System pH Control (Outfall 002)	aa. (1)	nves , an	Completed on 2/21/97.
10	6/30/97	Relocation of Major Repair Activities (Outfall 001 and 003)	U.	Complete relocation of major repair activities from condenser intake area.	Completed on 6/30/97.
P P	6/30/97	Fuel Oil Heaters (Outfall 002)	w.(1)	Complete installation of new fuel oil heater elements.	Completed on 6/30/97.
12	6/30/97	Fuel Oil Heaters (Outfall 002)	w. (2)	Complete installation and startup of oil and grease on-line detectors at fuel oil heaters and on console alarm system.	completed on 6/30/97.
13	7/31/97	Minor Thermal Streams (Outfall 004)	ff.(2)	Prepare and submit plans and specifications.	Completed on 7/31/97.
14	7/31/97	Metal Scrap Storage Facilities (Outfalls 002, 003, and 004)	ii.(1)	Prepare and submit plans and specifications.	Completed on 7/31/97.
15	8/31/97	Minor Thermal Streams (Outfall 002)	y. (2)	Prepare and submit plans and specifications.	Completed on 8/29/97.
б Т	9/30/97	Fuel Oil Heater Cooling System pH Control (Outfall 002)	aa. (2)	Prepare and submit plans and specifications.	Completed on 9/30/97.

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		Consent Decree	version of	version of January 26, 1998	
L ITEM	{ DEADLINE I	COMPLIANCE PROJECT		COMPLIANCE ACTIONI	STATUSI
17	4/30/98	Air Preheater Sump (Outfall 002)	z.(2)	Complete repairs/reconstruction	Project completed on 9/1/98.
18	5/31/98	Minor Thermal Streams (Outfall 004)	ff.(3)	Complete construction and installation.	Project completed on 1/25/99.
19	6/30/98	Wastewater Treatment Plant (IWS 003a)	cc.(2)	Complete construction and start-up of final effluent process adjustments.	03/15/99
20	6/30/98	Settling Basin Modification (Outfall 004)	gg.(2)	Complete construction.	Project was completed on 5-15-98.
21	7/1/98	Outfall 004 Compliance	hh.(1)	Achieve compliance with NPDES permit effluent limitations at outfall 004 for Minor Thermal Streams and Settling Basin Projects.	completed on 3/15/99.(Minor Thermal Streams) completed on 5/15/98.(Settling Basin)
22	8/31/98	Wastewater Treatment Plant (IWS 003a)	cc.(3)	Achieve compliance with NPDES permit effluent limitations at IWS 003a.	completed on 3/15/99.
23	8/31/98	Metal Scrap Storage Facility (Outfalls 002, 003, and 004)	ii.(2)	Complete construction.	completed on 6/17/99.

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PUERTO RICO ELECTRIC POWER AUTHORITY

Consent Decree Clean Water Act Compliance Program

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28	27	26	25	24	fITEM (
11/1/98	10/31/98	9/30/98	9/1/98	9/1/98	DEADLINE
Outfall 002 Compliance	Minor Thermal Streams (Outfall 002)	Fuel Oil Heater Cooling System pH Control (Outfall 002)	Outfall 004 Compliance	Outfall 003 Compliance	COMPLIANCE PROJECTI
bb.	y. (3)	aa. (3)	hh. (2)	dd.	
Achieve compliance with NPDES permit effluent limitations at outfall 002.	Complete construction and installation.	Complete construction and installation.	Achieve compliance with NPDES permit effluent limitations at Outfall 004 for Metal Scrap Storage Facility.	Achieve compliance with NPDES permit effluent limitations at Outfall 003.	COMPLIANCE ACTION
completed on 6/17/99.	completed on 8/21/98.	completed on 9/18/99.	completed on 6/17/99.	completed on 6/17/99.	STATUSI

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completed on 8/10/99.	Achieve compliance with NPDES permit effluent limitations at Outfalls 002 and 003.	Outfalls 002 and 003 nn. Compliance	5/1/98	თ
completed on 8/10/99.	oo.(2) Complete construction.	Metal Scrap Storage of Facility (Outfalls 001, 002, 003)	4/30/98 I	U
completed on 7/31/97.	oo.(1) Submit plans and specifications.	Metal Scrap Storage of Facility (Outfalls 001, 002, 003)	7/31/97	.42
Completed on 2/28/97.	<pre>kk.(1) Submit plans and</pre>	Wastewater Treatment RPlant Upgrade (IWS 001f)	2/28/97	ω
Completed on 1/2/97.	pp. Commence sampling	Toxicity Testing P	1/02/97	2
Completed on 12/31/96.	11. Complete corrective measures	Boiler Blowoff Recovery (Outfall 001)	12/31/96	ы
STATUS	COMPLIANCE ACTION	COMPLIANCE PROJECT	DEADLINE	I ITEM

PUERTO RICO ELECTRIC POWER AUTHORITY

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	ć	2		9	ω		7	ITEM
Page 2 of	4/30/99			4/30/99	2/28/99		5/1/98	ITEM DEADLINE
2		outfall 001 Compliance	(IWS 001f)	Wastewater Treatment Plant Upgrade	(IWS OOLE)	Wastewater Treatment	Outfall 001 Compliance	COMPLIANCE PROJECT
		mm. (3)		kk.(3).		kk.(2)	mm. (2)	_
	limitations at Outfalls 001 for Wastewater Treatment Plant Upgrade Project.	Achieve compliance with NPDES permit effluent	limitations at IWS 001f.	Achieve compliance with NPDES permit effluent	construction and startup.	cade	Achieve compliance with NPDES permit effluent limitations at Outfalls 001 for Metal Scrap Storage Project.	COMPLIANCE ACTION
		completed on 8/10/99.		completed on 9/15/99.	9/15/99.	completed on	completed on 8/10/99.	STATUS

APPENDIX H

SPILL PREVENTION CONTROL AND COUNTERMEASURE PLANS (SPCC)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

CARIBBEAN ENVIRONMENTAL PROTECTION DIVISION CENTRO EUROPA BUILDING, SUITE 417 1492 PONCE DE LEON AVENUE, STOP 22 SAN JUAN, PR 00907-4127

A.E.E.

2003 DEC -9 PM 5: 33

CERTIFIED MAIL — RETURN RECEIPT REQUESTED

DIRECTOR PLANIFICACION Y PROTECCION AMBIENTAL

December 3, 2003

Héctor R. Rosario Executive Director Puerto Rico Electric Power Authority P.O. Box 364267 San Juan, Puerto Rico 00936-4267

Re: <u>U.S. v. PREPA</u> Consent Decree Compliance; Civil Action No. 93-2527 EPA Approval of the Revised Spill Prevention Control and Countermeasure (SPCC) Plans for the San Juan, Palo Seco, Aguirre, and South Coast Plants, and the Monacillos Transmission Center; and Demand for Payment of Stipulated Penalties

Dear Mr. Rosario:

EPA is pleased to inform you that, pursuant to Section VII., Part I, Para. 10. of the above-referenced Consent Decree, it has reviewed the Revised Spill Prevention Control and Countermeasure (SPCC) Plans for the San Juan, Palo Seco, Aguirre, and South Coast Plants and the Monacillos Transmission Center, submitted to EPA under cover letter dated September 10, 2003 and is hereby granting this final Approval of these SPCC Plans. In addition, the evaluation of these SPCC Plans has determined that these Plans are in compliance with the SPCC requirements of Title 40 of the Code of Federal Regulations (CFR), Part 112 (40 CFR Part 112), specifically 40 CFR 112.1 through 112.8, EPA regulations pertaining to the prevention of oil spills from reaching waters of the United States.

Please note that while this official Approval of these SPCC Plans constitutes substantial compliance with this Section of the Consent Decree, PREPA remains liable for compliance with all other aspects of this regulatory program including, but not limited to the correction of all violations noted in previous SPCC field inspections, the full and complete implementation of the SPCC Plans, and the reporting and other obligations required under 40 CFR Part 112. EPA will verify these compliance requirements during future EPA inspections and PREPA will be notified in writing of EPA's re-inspection findings and any change in compliance status.

In addition, Section XIV of the Consent Decree provides that PREPA shall be liable to the United States for stipulated penalties for failure to comply with the requirements of the Consent Decree. Furthermore, because the Dispute as to the approvability of several of these SPCC Plans was resolved by agreement of the parties prior to re-filing formal dispute resolution proceedings, the method for calculation and payment of these stipulated penalties is found in Section XIV., para. 44.a., which states:

"If the dispute is resolved by agreement of the Parties or by a decision of EPA that is not subject of formal dispute resolution proceedings, accrued penalties determined to be owing shall be paid to EPA within thirty (30) days of the agreement or receipt of EPA's decision or order."

As part of the agreement of the Parties which resulted in the resolution of this dispute, EPA determined that accrued penalties in the amount of \$100,000 shall be owing and paid to EPA within 30 days of the receipt of this decision.

This payment to the United States (EPA) shall (a) be paid in the form of certified or cashier's check; (b) be made payable to the "Treasurer, United States of America"; (c) be mailed to:

United States Attorney
District of Puerto Rico
Torre Chardón
Suite 1201
350 Carlos Chardón Street
San Juan, Puerto Rico 00918
Att: AUSA Isabel Muñoz

(d) indicate that the payment is for stipulated penalties; and (e) refer to DOJ Case Number 90-5-2-1-1750 as well as the name and address of the party making payment. Copies of any check and any accompanying transmittal letter shall be sent to the United States as provided in Section XXII ("Form of Notice") of the Consent Decree.

Please do not hesitate to contact me, Andrew Praschak of the Office of Regional Counsel, or Christopher Jimenez of the Response and Prevention Branch, if you have any questions about this letter or any other items which require EPA consultation as the project proceeds.

Sincerely yours,

Carl-Axel P. Soderber

Director

cc:

P. Flynn, DOJ

M. Flint, DOJ

I. Muñoz, AUSA

R. Vargas-Vera, AUSA

A. Praschak, 2ORC

C. Jimenez, 2ERRD

N. Vazquéz, PREPA

H. Alejandro, PREPA

J. Norat, ERC

F. Claudio, CEPD

APPENDIX I

SPILL PREVENTION MAINTENANCE AND CONSTRUCTION PROGRAM PLANS (SPMCPP)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

CARIBBEAN ENVIRONMENTAL PROTECTION DIVISION CENTRO EUROPA BUILDING, SUITE 417 1492 PONCE DE LEON AVENUE, STOP 22 SAN JUAN, PR 00907-4127

A.E.E.

2903 AUG -5 AM 11:53

CERTIFIED MAIL —
RETURN RECEIPT REQUESTED

Y PROTELON IN AMBIENTAL

July 30, 2003

Héctor R. Rosario Executive Director Puerto Rico Electric Power Authority P.O. Box 364267 San Juan, Puerto Rico 00936-4267

Re:

<u>U.S. v. PREPA</u> Consent Decree Compliance; Civil Action No. 93-2527 EPA Modification and Approval of the Revised Aguirre Spill Prevention Maintenance and Construction Program

Dear Mr. Rosario:

EPA is pleased to inform you that, pursuant to Section VII., Part II, Para. 15. of the above-referenced Consent Decree, it has reviewed the Aguirre Spill Prevention Maintenance and Construction Program (SPMCP) originally submitted by PREPA on January 18, 2001 and revised by letter and submission to EPA dated June 6, 2003 and is hereby granting this final Modification and Approval of the Aguirre SPMCP.

It is noted that the revision submitted on June 6, 2003 contains the specific details, specifications and time lines which were missing from the original submission. Therefore the revision is hereby incorporated into the original document for purposes of EPA approval. In the event that any dispute or conflict arises between the requirements of the two documents, it is intended that the June 6, 2003 revisions will be controlling on those specific aspects of the SPMCP requirements.

The only Modification to the Workplan required by this EPA approval is the incorporation of the clarifications and specifications of certain aspects of the Aguirre SPMCP as follows:

I. Reserve Light Distillate Tank Farm (Tanks DR1, DR2, DR3, and DR4)

 Liner installation: The dike wall liner will be extended under the concrete floor covering to provide an impervious interface between the dike wall liner and the floor covering. See construction Detail "T" (Figure 1). The dike wall liner installed is a High Performance Polyester Base Fabric Type Reinforced Geomembrane of 30.0 mils thickness (XR-5 8130) manufacture by Seaman Corporation; see Geomembrane specifications.

- 2. A 5-inch thick concrete floor with a fibrous reinforcement and a 1% slope toward the new curbs will be installed. *Isolation joint* with 6" ribbed PVC water stop between the concrete floor and the new curbs will be used to provide an adequate seal at the connection point. See Concrete Slab, Sections, Details & Notes (Figure 2).
- Two 6 mils coats of white IC-5400 (or an approved equal coating) will be applied over the new concrete floor. Also, all storm water drain valves have been replaced.
- 4. Tanks DR3 and DR4: These tanks are currently not used for light distillate storage. The fuel lines are closed and locked. Eventually, these fuel lines will be disconnected and will be eliminated by the end of 2003. These tanks will be renamed and used for the Wastewater Treatment Plant.
- Reserve Light Distillate Tank Farm Liner System and Concrete Floor: This project is 90% completed and will be finished by August 29, 2003.

II. Reserve Light Distillate and Reserve Bunker C Tank Farm (Tanks R5 and R6)

- Liner installation: The dike wall liner will be extended and anchored under the floor covering to provide an impervious interface between the dike wall liner and the floor covering. See construction Detail "T" (Figure 3). Dike Wall liners technical specifications are the same as for DR1, DR2, DR3 and DR4.
- 2. Complete a grading plan by filling volume with a clay material having permeability of 1x10⁻⁸ cm/s or less as described on drawings. Install a bentonite clay liner and cover with a 6" layer of clay material compacted to a 95% of Standard Proctor Test (The bentonite liner will be placed under the access roads and gutters inside these dikes). This requirement was included in the project specification 14001 for Bid LFO-56801.
- The pre-bid meeting for this project was held on April 15, 2003. This project will be finished by December 31, 2004.

Please note that with this official Modification and Approval of the Aguirre SPMCP, several of the other requirements of Section VII, Part II. of the Consent Decree must now be complied with by PREPA, including, but not limited to the commencement and completion of all work activities in accordance with the approved schedules set forth in the revised Aguirre SPMCP, the timely preparation and submission of a Spill Prevention SPMCP Final Report and a Final Report certification as detailed in the Consent Decree.

In addition, Section XIV of the Consent Decree provides that PREPA shall be liable to the United States for stipulated penalties for failure to comply with the requirements of the Consent Decree. Furthermore, because the Dispute as to the approvability of the Aguirre SPMCP was resolved by agreement of the parties prior to re-filing formal dispute resolution proceedings, the method for calculation and payment of these stipulated penalties is found in Section XIV., para. 44.a., which states:

"If the dispute is resolved by agreement of the Parties or by a decision of EPA that is not subject of formal dispute resolution proceedings, accrued penalties determined to be owing shall be paid to EPA within thirty (30) days of the agreement or receipt of EPA's decision or order."

As part of the agreement of the Parties which resulted in the resolution of this dispute, EPA determined that accrued penalties in the amount of \$100,000 shall be owing and paid to EPA within 30 days of the receipt of this decision.

This payment to the United States (EPA) shall (a) be paid in the form of certified or cashier's check; (b) be made payable to the "Treasurer, United States of America"; (c) be mailed to:

United States Attorney
District of Puerto Rico
Torre Chardón
Suite 1201
350 Carlos Chardón Street
San Juan, Puerto Rico 00918

Att: AUSA Isabel Muñoz

(d) indicate that the payment is for stipulated penalties; and (e) refer to DOJ Case Number 90-5-2-1-1750 as well as the name and address of the party making payment. Copies of any check and any accompanying transmittal letter shall be sent to the United States as provided in Section XXII ("Form of Notice") of the Consent Decree.

Please do not hesitate to contact me or Andrew Praschak at (787) 977-5822, if you have any questions about this letter or any other items which require EPA consultation as the project proceeds.

Sincerely yours,

Carl-Axel P. Soderberg

Director

cc: P. Flynn, DOJ

M. Flint, DOJ

I. Muñoz, AUSA

A. Praschak, 2ORC

W. Mugdan, 2DEPP

C. Jimenez, 2ERRD

N. Vazquéz, PREPA

H. Alejandro, PREPA

J. Norat, ERC

F. Claudio, CEPD

DE 79488 A.E.E.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

CARIBBEAN ENVIRONMENTAL PROTECTION DIVISION CENTRO EUROPA BUILDING, SUITE 417 1492 PONCE DE LEON AVENUE, STOP 22 SAN JUAN, PR 00907-4127 AM 8: 43

2003 OCT 27 AM 10: 54

DIRECTOR PLANIFICACION Y PROTECCION AMBIENTAL

CERTIFIED MAIL -RETURN RECEIPT REQUESTED

October 20, 2003

Héctor R. Rosario **Executive Director** Puerto Rico Electric Power Authority P.O. Box 364267 San Juan, Puerto Rico 00936-4267

Re:

U.S. v. PREPA Consent Decree Compliance; Civil Action No. 93-2527 EPA Approval of the Revised Spill Prevention Maintenance and Construction Programs for the Palo Seco, San Juan and South Coast Plants

Dear Mr. Rosario:

EPA is pleased to inform you that, pursuant to Section VII., Part II, Para. 15. of the abovereferenced Consent Decree, it has reviewed the Spill Prevention Maintenance and Construction Programs (SPMCPs) for the Palo Seco, San Juan and South Coast Plants originally submitted by PREPA on January 18, 2001 and revised by letter and submission to EPA dated August 8, 2003 and is hereby granting this final Approval of these SPMCPs.

It is noted that the revision submitted on August 8, 2003 contains the specific details, specifications and time lines which were missing from the original submission. Therefore, the revision is hereby incorporated into the original document for purposes of EPA approval. In the event that any dispute or conflict arises between the requirements of the two documents, it is intended that the August 8, 2003 revisions will be controlling on those specific aspects of the SPMCP requirements.

Please note that with this official Approval of the SPMCPs for the Palo Seco, San Juan and South Coast Plants, several of the other requirements of Section VII, Part II. of the Consent Decree must now be complied with by PREPA, including, but not limited to the commencement and completion of all work activities in accordance with the approved schedules set forth in the revised SPMCPs, the timely preparation and submission of a Spill Prevention SPMCP Final Report and a Final Report certification as detailed in the Consent Decree.

In addition, Section XIV of the Consent Decree provides that PREPA shall be liable to the United States for stipulated penalties for failure to comply with the requirements of the Consent Decree.

However, as part of the agreement of the Parties to resolve all pending SPCC Disputes in their entireties, the parties have agreed that it is appropriate to determine and demand the remaining balance of stipulated penalties due upon approval of the actual SPCC Plans for each plant, the reviews of which by EPA are expected shortly.

Please do not hesitate to contact me or Andrew Praschak at (787) 977-5822, if you have any questions about this letter or any other items which require EPA consultation as the project proceeds.

Sincerely yours,

Carl-Axel . Soderberg

Director/

cc: P. Flynn, DOJ

M. Flint, DOJ

A. Praschak, 2ORC

C. Jimenez, 2ERRD

N. Vazquéz, PREPA

H. Alejandro, PREPA

J. Norat, ERC

F. Claudio, CEPD



COMMONWEALTH OF PUERTO RICO PUERTO RICO ELECTRIC POWER AUTHORITY SAN JUAN, PUERTO RICO



www.prepa.com

PO Box 364267 San Juan, Puerto Rico 00936-4267

March 9, 2009

CERTIFIED MAIL 7006 2150 0005 6142 5916

Christopher Jiménez
United States Environmental Protection Agency
Region 2
Response & Prevention Branch
Bldg. 209, MS-211
2890 Woodbridge Avenue
Edison, New Jersey 08837

Dear Mr. Jiménez:

Re: Spill Prevention Maintenance and Construction Program Plans (SPMCPP)

Enclosed herewith are the Spill Maintenance and Construction Final Report prepared by each PREPA's Plant Managers dated February 2009 and certified by PREPA's Electrical System Director.

Should you require additional information, please contact Eng. Francisco E. López, PREPA Environmental Protection and Quality Assurance Division Head at (787) 289-4960.

Cordially.

Angel L. Rivera Santana Director Planning and

Environmental Protection

Enclosure

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Cordially,

Angel L. Rivera Santana Director Planning and Environmental Protection

Enclosure

c Andrew L. Prashack Josue Colón Nitza Vázquez

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Enclosure

PEL/RESAIVIO/MICH

c Andrew L. Prashack
 Josue Colón
 Nitza Vázquez
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March 9, 2009

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Angel L. Rivera Santana Director Planning and Environmental Protection

Enclosure

c Andrew L. Prashack Josue Colón

Nitza Vázquez

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Spill Prevention Maintenance and Construction Program Plans (SPMCPP)



Final Report February 2009

Status Report Summary

Facility	Project	Status
Acres and Domes	Reserve Light Reserve Tank Farm Dikes	100% Completed
Aguirre Power Complex	Reserve Bunker C and Reserve Light Distillate Tank Farm	100% Completed
	Inspection and Repair of Fuel Oil Tanks R1-R4, D1-D3	100% Completed 100% Completed
Palo Seco Steam Plant	Light Distillate Tank Farm Dikes Improvements	100% Completed
	Fuel Tank Farm Dike Improvements	100% Completed
	Inspection and Repair of Fuel Oil Tanks S7 & S8	100% Completed
	Inspection and Repair of Fuel Oil Tank S- 10	100% Completed
San Juan Steam Plant	Inspection and Repair of Fuel Oil Tanks R1-R4	100% Completed
	Fuel Tanks' Dikes Improvements S7 to S10	100% Completed
	Fuel Tank Dikes Improvements R1 to R4	100% Completed
	Inspection and Repair Fuel Oil Storage Tank R1, R2 &R3	100% Completed
South Coast Steam Plant	Light Distillate Tank Dike Improvements	100% Completed
	Fuel Oil Storage Tank Dikes Improvements	100% Completed

Puerto Rico Electric Power Authority



Certification

In my capacity as the Electrical System Director of PREPA, I hereby certify, under penalty of law, that the information contained in or accompanying this submission was prepared by qualified personnel who properly gathered and evaluated the information submitted. I further certify, based on a reasonable inquiry of the person or persons responsible for gathering such information, that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

18 Feb 09

Date of Signature

Electrical System Director

Puerto Rico Electric Power Authority



Aguirre Power Complex

Spill Prevention Maintenance and Construction Program Plans (SPMCPP) Final Report - February 2009

Prepared by:

Name: Luis Ríos

Superintendent Title:

Date:

Revised by:

Name: Rafael Perez

Title: Plant Manager

Aguirre Power Complex

Date:

SPMCPP AGUIRRE February 2009

RESERVE LIGHT DISTILLATE TANK FARM (TANKS DR1, DR2, DR3, AND DR4)

Dikes	Starting Date	Completion Date	Revised Completion Date	Material	Compactation	Hydraulic & Conductivity Test (cm/s)
DR1 @ DR2		December 2003	06/30/04	Concrete	N/A	N/A

Project Status:

100% Completed

IMPROVEMENTS TO LIGHT OIL TANKS DR1, DR2, DR3 & DR4 DIKES AGUIRRE STEAM PLANT

ID - 7579

Scope of Work

The Contractor furnished all labor, equipment, materials, tools, services and supervision required for the improvement of the Reserve Light Distillate DR1 thru DR4 Tank farm dikes located at Aguirre Steam Plant, Salinas, PR. Rehabilitation of tank farm includes removal and disposal of existing soil, installation of 18 in. thick clay cushion to the specified grades, construction of drainage system, installation of liner and rehabilitation of erosion control systems at dikes walls required in the project specifications and miscellaneous work required for the complete rehabilitation of tanks farm dikes.

SYNOPSIS OF DEFICIENCIES DISCOVERED AND CORRECTIONS TAKEN DURING SPMCP

During project performance EPA requested a replacement of the 18 in. thick clay cushion to a 6 in. concrete slab in the bottom of the distillate oil dikes and to protect the concrete slab with epoxy paint. A change order was approved to the contractor in order to comply with this requirement. The project construction started on July 22, 2002 and was completed on June 30, 2003.

SPMCPP AGUIRRE February 2009

RESERVE BUNKER C AND RESERVE LIGHT DISTILLATE TANK FARM

Startin Dikes Date		Revised Starting Date	Completion Date	Revised Completion Date
R1 @ R3 R5 & R6		07/09/04	12/31/04	07/31/05

Project Status: 100% Completed

IMPROVEMENTS BR1, BR2, BR3, DR5 AND DR6 DIKES AGUIRRE STEAM PLANT

ID - 6469

Scope of Work

Work shall include all labor, materials, equipment, tools, supervision and services for the improvements of the Reserve Light Distillate DR5, DR6 and Reserve Bunker C BR1 thru BR3 tank farm located at Aguirre Steam Plant, at Salinas, PR. Rehabilitation of the tank dikes includes but not limited to the removal and disposal of existing soil and installation of an 12 in minimum thick clay cushion and 6 in. of selected soil (A-4 or better) on top to the specified grades at tank's BR3 and DR6 dikes and perform the specified grading at the other tank dikes, construction of drainage systems at the dikes walls as specified, construction of a access road to every tank and other miscellaneous work required for the complete rehabilitation of the tank farm dikes.

SYNOPSIS OF DEFICIENCIES DISCOVERED AND CORRECTIONS TAKEN DURING SPMCP

During project performance EPA requested the replacement of the 12 in. thick clay cushion and the 6 in. of selected soil of a bentonite liner cover to a 6in. to 12in. soil on the bottom of dikes BR3, DR5 and DR6. A change order was approved to the contractor in order to comply with this requirement. The project construction started on July 14, 2004 and was completed on July 31, 2005.

Puerto Rico Electric Power Authority



South Coast Power Plant

Spill Prevention Maintenance and Construction Program Plans (SPMCPP) Final Report – February 2009

Prepared by:

Name: Ramón Cano

Title: Superintendent
Date: & F-61-1- 200 q

Revised by:

Name: Roberto Nazario

Title: Plant Manager

South Goast Power Plant

Date: 5/2/09

SPMCPP SOUTH COAST February 2009

FUEL OIL STORAGE TANK REHABILITATION R1, R2 & R3

ID - 0197

Tauks	Starting Date	Completion Date	API Visual Inspection Date	API Certification	Next Internal API Inspection Date
R1 .	03/31/03	11/30/04	June 30, 03	May 2004	May, 2024
R2	01/24/05	06/01/06	June 5, 03	March 2006	March 2026
R3	11/16/05	10/31/07 pl .	October 17, 06	August 2007	August 2027

Project Status:

100% Completed

SYNOPSIS OF DEFICIENCIES DISCOVERED DURING SPMCP

TANK R1, R2 and R3 - Additional repair works at reserve fuel tank R1 affected the repair schedules for tanks R2 and R3. These additional works required change orders to complete the project at 100%. As a result of the API inspection on the three tanks, the following deficiencies were discovered:

Foundation:

- This ring wall had hairline cracks intermittently and was found with soil covered around the tanks.
- There is no moisture barrier in place at the bottom edge projection-to-foundation joint, allowing water to enter under the tanks bottom.
- There is minor vegetation growing from the foundation at random areas around the tanks perimeter. Vegetation holds moisture and promotes corrosion.

Bottom:

- On R1, forty-three (43) plates were marked for a complete replacement (37 sketch plates and 6 full plates). An additional nineteen (19) plates were marked for partial replacement.
- On R2, repair works included 21 patches and various defecting welding.
- On R3, repair works included correct internal floor and shell welding, replacement of all angular steel plates welded to the shell.
- The cone roof support columns are not equipped with seal welded reinforcing pads on the bottom beneath the column bases.

Nozzles and Appurtenances:

 The tank gauge and high-level alarm systems should be tested and repaired if necessary and calibrated prior to returning the tank to service.



SYNOPSIS OF THE STEPS TAKEN TO CORRECT SUCH DEFICIENCIES

TANK R1, R2 and R3 - As a result of the API inspection on the three tanks, it became necessary additional repair works. These requests were made under Changes and/or Extra Work Article in the contract between PREPA and the contractor. The additional works included;

Foundation:

- To correct the ring walls, it was necessary to demolish partially the existing ring walls
 and construct a new one for each tank with a grout and re-coat to minimize further
 degradation of the foundation from moisture penetration corroding the reinforcement.
- To create a moisture barrier in place, the tanks circumference areas were re-worked, suitable moisture barrier were installed around the entire tank bottom perimeter to provide adequate drainage away from the tank and to allow for Visual (VT) inspection of the shell-to-bottom joint area at all times,
- The installed suitable moisture barrier around the entire tank bottom perimeter prevents the vegetation growing from the foundation at random areas around.
- The vegetation problem was corrected by removing the vegetation and maintaining this
 area on a frequent basis to help minimize future corrosion.

Bottom:

- In all the tanks, defective steel plates were completely corrected by the replacement and
 patch steel plates fabricated and installed by lap welding on site.
- Proper size reinforcing pads were installed on the bottom beneath all column bases using approved welding procedures per API 653 guidelines. These columns was straightened and restrained with adequate lateral restraining clips welded to the reinforcing plates.

Nozzles and Appurtenances

The existing automatic gauge system was removed at the time of the inspection as a
result of the cone roof plate replacement work. A new gauge level and alarm system
was installed, calibrated tested and provided orientation to personnel prior to returning
the tanks in service.



SPMCPP SOUTH COAST February 2009

FUEL OIL STORAGE TANKS' DIKES IMPROVEMENT ID-0197

Dikes	Starting	Revised	Completion	Material
	Date	Starting	Date	
		Date		
R1@R3	March 2004	September 2005	February 2008	Liner

Project Status:

100% Completed,

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SYNOPSIS OF DEFICIENCIES DISCOVERED DURING SPMCP

- Originally, the dikes rehabilitations consisted in the excavation, removal and disposal of 18" of existing dike's floor earth, beginning 1' below the ring wall elevation. To replace this material with 6" of selected material with AASHTO Classification of A-2-4 or better. On the top of this layer install 12" of clayey material with permeability of 1 x 10⁻⁶ cm/s or less. Due to the expensive cost of earth work excavations and poor results of impermeability on others projects constructed, it was recommended to edit the scope of work.
- Design modifications for the gas heaters and tank ladders access. The original design did not consider the access to the main gates tank valves and ladders.
- Delays of the rehabilitation of the reserve tanks project, delayed the dike rehabilitation project. These projects were developed at the same time, the dike project was delayed due to heavy equipment and tank materials were around the reserve tanks, and it was impossible to continue with the dike project.
- The continuous landslide on the dikes caused severe damages to the drainage and filtration system.



SYNOPSIS OF THE STEPS TAKEN TO CORRECT SUCH DEFICIENCIES

- The original scope was revised and changed. The most significant changes included the installation of a liner system on the dike walls and floors with a padding of non geo textile of 16 oz/yd², because was more economical, and brought better impermeability results. The floor liner selected and installed was GSE conductive white, spark testable, HDPE geo membrane of 60 mills,
- It was necessary to make design modifications for the gas heaters and tank ladders access. The original design did not consider access to the main tank valves and ladders. The contractor constructed a concrete walkway for all the tanks. These requests were made under Changes and/or Extra Work Article in the contract between PREPA and the contractor.
- The rehabilitation of the reserve tanks delayed the works on the dikes project.
 As a result of these problems it was necessary to extend the contract terms 429
 days. These requests were made under Changes and/or Extra Work Article in the
 contract between PREPA and the contractor.
- Additionally new designs were made and the contractor built a concrete retention wall on the top of the dike's wall in the north side (R2 &R3). These requests were made under Changes and/or Extra Work Article in the contract between PREPA and the contractor.

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Puerto Rico Electric Power Authority



Palo Seco Power Plant

Spill Prevention Maintenance and Construction Program Plans (SPMCPP) Final Report – February 2009

Prepared by:

Name: Confesor Vega Title: Superintendent

Date: 43 5,09

Revised by:

Name: Juan Tirado

Title: Plant Manager

Palo Seco Power Plant

Date:

INSPECTION AND REPAIR OF FUEL OIL TANKS R1-R4, D1-D3 ID - 6465

R1 @ R4

Tanks	Starting Date	Completion Date	API Visual Inspection Date	API Certification Date	Next Internal API Inspection Date
R1	18/01/05	August 06	March 2005	June 2006	June 2025
R2	01/22/03	6/11/04	April 2003	April 2004	April 2014
R3	07/11/01	11/22/02	11/09/02	11/27/02	November 2022
R4	08/02/99	05/30/01	April 2001	9/26/01	September 2021
Project S	tatus:	100% Completed			

D1 @ D3

Tanks	Starting Date	Completion Date	API Visual Inspection Date	API Certification Date	Next Internal API Inspection Date
D1	08/02/99	09/24/01	March 2001	09/26/01	September 2021
D2	11/18/02	7/31/03	12/20/03	01/29/04	January 2014
D3	10/24/01	07/05/02	06/22/02	07/12/02	July 2022

Project Status:

100% Completed.

Synopsis of Deficiencies Discovered during SPMCP on

R1-R4 & D1-D3

Foundation:

- Inspection of the concrete ring wall on R1, revealed cavities beneath the original bottom, allowing vegetation growth to burrow underneath the tank.
- On R4 was found minor cracking, spalling and the weather coating was deteriorated.

Bottom:

- On R1 the Magnetic Flux Leakage (MFL) scanning revealed eight hundred eighteen (818) indications grouped into two hundred thirty-five (235) areas of metal loss with a remaining thickness of 0.250 inch or below. All areas are the result of soil side metal loss.
- During the hydro test water on R2, a leak was discovered between the two floors with 6 feet of water in the tank.
- An over paint inspection of R3 of the bottom welds was performed and seventy-one welds were marked for repairs, or dye check. The tank started leaking during the hydrostatic test.
- The bottom of Tank D1 did not have the thickness indicated on API 653.
- The overall conditions of Tank D2 and D3 demonstrated barely any presence of sediment.

Shell:

- The support brackets for high-level alarm indicator (items I and J located at Stations 165.0 and 167.0) were deteriorated and not connected to the shell on R1.
- · Part of Tank D1 had the minimum thickness.

Nozzles and Appurtenances:

 The spiral stairway leading up to the platform of R1 had coating failure with rust in the surface and some nozzles did not have reinforcing plates.

Roof

- D1 roof had a high corrosion environment created by the gas/liquid interface at this area.
- Extensive number of through-thickness holes (over 1,000), the fixed roof plates should be replaced on R1.
- The outer perimeters of the roof plates, on R4, were severely corroded along the handrail and a
 large hole existed through the roof. Additionally the external corrosion was noted at point of
 failure.

SPMCPP PALO SECO

February 2009

Synopsis of the Steps taken to Correct such Deficiencies

Foundation

- The extent of damage to the concrete ring wall was established and the areas of cavities were filled to minimize loss of sand pad support on R1.
- No action taken was necessary for the minor cracking and spalling on R4. The weather coating was corrected.

Bottom

- The areas at R1 were repaired by fabricating and installing patch plates.
- A secondary floor was installed on top of the existing floor with 6 inches of sand support on R4 tank.
- R2 was drained and the floor joints were tested. It was decided to seal weld the column repads of
 the floor plates. Test holes cut in the upper floor revealed the presence of water between the two
 floors. The water was removed and two areas near the center were grouted to eliminate some
 floor flexing.
- The repair procedure written for the welds marked was followed on R3. Also at Tank R3 a leak was found and was repaired.
- The contractor removed and disposed the sediment for Tank D2 and D3.

Shell

- These supports of R1 were welded directly to the shell.
- The contractor installed two insert plates at the south area of the tank D1.

Nozzles and Appurtenances:

 On R1 the spiral stairway and platform was properly cleaned and recoated. The reinforcing plates were installed.

Roof

A new roof was installed at D1, R1 and R4.

SPMCPP PALO SECO February 2009

DISTILLATE TANKS' DIKES IMPROVEMENTS D1-D3

ID - 0124

	Starting			Compactation	Hydraulic &
Dikes	Date	Completion Date	Material	%	Conductivity Test
					(cm/s)
Lt. Distillate	06/12/01	09/15/01	Clay	96.9% - 98.7%	
D1 @ D3					6.9 X 10 ⁻⁸

Project Status: 100% Completed.

Bunker C Reserve and Service Tanks Farm's Dikes

ID - 0124

Dikes	Starting Date	Completion Date	Revised Completion Date	2 nd Revised Completion Date	3 rd Revised Completion Date
Reserve & Service	June 2006	April 2007	May 2007	July 2007	September 2007
Dikes	4 rd Revised Completion Date	5 rd Revised Completion Date	Material	Compactation	Hydraulic & Conductivity Test (cm/s)
Reserve & Service	January 2008	January 2008	Liner	N/A	N/A

SYNOPSIS OF DEFICIENCIES DISCOVERED DURING SPMCP

- Originally, the dikes rehabilitations consisted in the excavation, removal and disposal of 18" of existing dike's floor earth, beginning 1' below the ring wall elevation. To replace this material with 6" of selected material with AASHTO Classification of A-2-4 or better. On the top of this layer install 12" of clayey material with permeability of 1 x 10⁻⁶ cm/s or less. Due to the expensive cost of earth work excavations and poor results of impermeability on others projects constructed, it was recommended to edit the scope of work.
- Modifications of the access roadways for the R1 tank and the R2.
- Delays of the rehabilitation of the reserve tanks project, delayed the dike rehabilitation project.

SYNOPSIS OF THE STEPS TAKEN TO CORRECT SUCH DEFICIENCIES

- The original scope was revised and changed. The most significant changes included the installation of a liner system on the dike walls and floors with a padding of non geo textile of 16 oz/yd², because was more economical, and brought better impermeability results. The liner installed was XR-5 8130 of 30 mills.
- The contractor extended the road access for R1 and R2. New grounding mat was
 installed in reserve tank R3 and R4, and miscellaneous works. As a result of these
 additional works it was necessary to extend the contract terms 120 days.
- Raining delays the construction Works. As a result of these problems it was necessary to
 extend the contract terms 156 days. These requests were made under Changes and/or
 Extra Work Article in the contract between PREPA and the contractor.

Puerto Rico Electric Power Authority



San Juan Power Plant

Spill Prevention Maintenance and Construction Program Plans (SPMCPP) Final Report - February 2009

Prepared by:

Title: Superintendent Date: 10/505/09

Revised by:

Name. Rafael Carrasquillo Title: Plant Manager

San Juan Power Plant

Date:

SPMCPP SAN JUAN February 2009

INSPECTION AND REPAIR OF FUEL OIL TANKS S7 & S8

ID - 14174

Tanks	Handover	Starting	Completion	API Visual	API	Next Internal API	
For Repair	Date	Date	Inspection Date	Certification Date	Inspection Date		
S-7	06/13/02	11/13/01	09/12/02	04/08/01	N/A	September 2012	
S-8	10/02/01	11/13/01	05/10/02	04/08/01	N/A	May 2012	

Project Status: 100% Completed.

SYNOPSIS OF DEFICIENCIES DISCOVERED DURING SPMCP

Tanks S7 & S8 - These tanks affected the repair schedule due that originally they were not part of the rehabilitation scope. During a visual inspection, the following deficiencies were discovered:

- The ring wall was covered with soil and there was no moisture barrier between the tank floor and the concrete.
- The floors were in critical conditions.
- The plates were in critical conditions where the anchor chairs were welded.

SYNOPSIS OF THE STEPS TAKEN TO CORRECT SUCH DEFICIENCIES

Tanks S7 & S8 - As a result of the inspection, additional work were made. These are:

- A fabric reinforced plastic liner was installed over the existing floor. Also, a cathodic protection system, a leak detection system and a new floor were installed.
- A new concrete wall was constructed from the existing one to the new floor, which included the installation of a moisture barrier to seal between the tank and the concrete wall.
- Relocate the nozzles according to API 650.
- Patch plates were installed at the anchor chairs welding.
- Replacement all anchor bolts.

The entire tank (internal and external) was painted.

SPMCPP SAN JUAN February 2009

INSPECTION AND REPAIR OF FUEL OIL TANK S-10

ID - 14174

Tanks	Handover	Starting	Completion	API Visual	API Certification	Next Internal API
	For Repair	Date	Date	Inspection Date	Date	Inspection Date
S-10	08/31/01	09/12/01	02/05/04	New Construction	05/14/02	February 2012

Project Status: 100% Completed (02/05/02).

SYNOPSIS OF DEFICIENCIES DISCOVERED DURING SPMCP

Tank S-10 - According the inspection, the tank was in critical conditions.

SYNOPSIS OF THE STEPS TAKEN TO CORRECT SUCH DEFICIENCIES

Tank S-10 – As a result of the inspection, the existing tank was demolished and a new one was constructed which included painting, modification of the concrete base, and the construction of the platform at the top of the tank.

FUEL OIL STORAGE TANK REHABILITATION R1 TO R4 $$\operatorname{ID}$ - 14174

Tanks	Starting Date	Completion Date	API Visual Inspection Date	API Certification Date	Next Internal API Inspection Date
R1	01/28/03	10/31/03	May 16, 03	N/A	November, 2019
R2	01/10/02	01/07/03	March 15, 02	N/A	December, 2015
R3	04/01/05	11/11/05	June 02, 05	N/A	November, 2025
R4	12/01/03	02/24/05	July 22, 04	N/A	December, 2014

Project Status:

R1, R2, R3 and R4 are 100% Completed.

SYNOPSIS OF DEFICIENCIES DISCOVERED DURING SPMCP

TANKS R1 to R4 – As a result of the API inspection, the following deficiencies were discovered:

Tank R2:

- Twelve areas of metal loss in the bottom.
- There no base plates beneath the fixed roof columns.
- Heavy corrosion was observed on the fixed roof plate and at the top shell.

Tank R1:

- Fifty-six areas with thickness of 0.180 inch or below at the bottom.
- There no base plates and support beneath the fixed roof columns.

Tank R4:

- Fifty-three areas with thickness of 0.190 inch or below
- There no bearing plates beneath the fixed roof columns
- There some plate thickness at the roof.

Tank R3:

- The concrete grout applied over the foundation up to the new bottom of the tank failed and water intruded beneath the bottom.
- There no bearing plates beneath the fixed roof columns.
- Twenty-five areas of thickness of 0.22inch or below.

SYNOPSIS OF THE STEPS TAKEN TO CORRECT SUCH DEFICIENCIES

TANK R1 to R4 - Additional repair works affected the repair schedules of all tanks. These additional works required change orders to complete the project at 100%. As a result of the API inspection on the tanks, the following deficiencies were discovered:

Tank R2:

- Total replacement of the roof.
- · Replacement six feet of the ring wall at the top.
- Installation of 12 patch plate in the floor and 13 bearing plate at the internal columns.

Tank R1:

- Replacement of 2,700 square feet steel plate on the floor.
- Replacement of 13 bases of the internal columns.
- Installation of 13 bearing plate at the internal columns.

Tank R4:

- Replacement of 320 square feet steel plate on the floor.
- Installation of 35 patches plate.
- Installation of 13 bearing plate at the internal columns.
- Replacement of 960 square feet at the roof.

Tank R3:

- Installation of 13 bearing plate at the internal columns.
- Installation of 15 patches plate in the floor.
- Replacement of the grout between the tank floor and the concrete ring.

FUEL TANKS' DIKES IMPROVEMENTS S7 to S10

ID - 14170

Dikes	Starting	Completion	Material	Compactation	Hydraulic &
	Date	Date		%	Conductivity Test
	10				(cm/s)
S7@S10	06/11/03	06/30/04	Clay	95% *	1 x 10 ⁻⁶ *

Project Status: 100% Completed.

SYNOPSIS OF DEFICIENCIES DISCOVERED DURING SPMCP

During the project no deficiencies were noted.

SYNOPSIS OF THE STEPS TAKEN TO CORRECT SUCH DEFICIENCIES

During the project no corrective actions were necessary.

FUEL TANK DIKES IMPROVEMENTS R1 to R4

ID-14170

Bunker C Reserve Tank Farm Dikes

Improvements Schedule

Dikes	Starting	Revised Starting Date	Completion Date	Revised Completion Date	2 nd Revised Completion Date	Material	Compactation	Hydraulic & Conductivity Test (cm/s)
R1@R4	06/17/03	10/20/03	06/17/04	03/15/05	Same	Clay	95% *	1 x 10 -6 *

^{*}As specified in scope of work

Note: The Standard Procter Test results and Hydraulic & Conductivity Test report will be available upon request.

Project Status: 100% Completed

SYNOPSIS OF DEFICIENCIES DISCOVERED DURING SPMCP

Dike R1: After the impermeabilization work finished, an oil spill occurred in the dike affecting this area.

SYNOPSIS OF THE STEPS TAKEN TO CORRECT SUCH DEFICIENCIES

Dike R1: Due to the spill, replacement of the affected area was made.

APPENDIX J

IN-HOUSE RELEASE PREVENTION PROGRAM PLAN (IRP)

Mr. Walter Mugdan
U.S. Environmental Protection Agency
Regional Counsel, Region II
Office of Regional Counsel
290 Broadway
New York, NY 10007-1866

Dear Mr. Mugdan:

RE: DOJ Case No. 90-5-2-1-1750/Civil Action No. 93-2527CCC Consent Decree-Puerto Rico Electric Power Authority In-House Release Prevention Program

Pursuant to Section IX, entitled CERCLA Section 103 and EPCRA Section 304 Compliance Program, enclosed please find the In-House Release Prevention Program Plan ("IRP Program Plan") required by Part II of this section and designed to prevent the release of hazardous substances into the environment from PREPA's facilities. Each of PREPA's facilities included in the Consent Decree is submitting a Plan at this time.

If you have any questions on this matter, you may contact us at above letterhead address or call (787) 289-4959 or 4960.

Cordially

Francisco E. López, Head Environmental Protection and Quality Assurance Division

Enclosures

JRJ/NB/vma

Ms. Lois J. Schiffer
Chief, Environmental Enforcement Section
Environment and Natural Resources Division
US Department of Justice
PO Box 7611
Ben Franklin Station
Washington, DC 20044

Dear Ms. Schiffer:

RE: DOJ Case No. 90-5-2-1-1750/Civil Action No. 93-2527CCC Consent Decree-Puerto Rico Electric Power Authority In-House Release Prevention Program

Pursuant to Section IX, entitled CERCLA Section 103 and EPCRA Section 304 Compliance Program, enclosed please find the In-House Release Prevention Program Plan ("IRP Program Plan") required by Part II of this section and designed to prevent the release of hazardous substances into the environment from PREPA's facilities. Each of PREPA's facilities included in the Consent Decree is submitting a Plan at this time.

If you have any questions on this matter, you may contact us at above letterhead address or call (787) 289-4959 or 4960.

Cordially

Francisco E. López, Head Environmental Protection and Quality Assurance Division

Enclosures

JRJ/NB/vma

Mr. Andrew L. Praschak
US Environmental Protection Agency
Region II, Caribbean Environmental Protection
Division
Centro Europa Bldg., Suite 417
1492 Ponce De León Ave.
Santurce, PR 00907

Dear Mr. Praschak:

RE: DOJ Case No. 90-5-2-1-1750/Civil Action No. 93-2527CCC Consent Decree-Puerto Rico Electric Power Authority In-House Release Prevention Program

Pursuant to Section IX, entitled CERCLA Section 103 and EPCRA Section 304 Compliance Program, enclosed please find the In-House Release Prevention Program Plan ("IRP Program Plan") required by Part II of this section and designed to prevent the release of hazardous substances into the environment from PREPA's facilities. Each of PREPA's facilities included in the Consent Decree is submitting a Plan at this time.

If you have any questions on this matter, you may contact us at above letterhead address or call (787) 289-4959 or 4960.

Cordially

Francisco E. López, Head Environmental Protection and Quality Assurance Division

Enclosures

JRJ/NB/vma

Mr. Christopher Jiménez
US Environmental Protection Agency
Response and Prevention Branch
Emergency and Remedial Response Division
2890 Woodbridge Ave.
Edison, NJ 08837

Dear Mr. Jiménez:

RE: DOJ Case No. 90-5-2-1-1750/Civil Action No. 93-2527CCC Consent Decree-Puerto Rico Electric Power Authority In-House Release Prevention Program

Pursuant to Section IX, entitled CERCLA Section 103 and EPCRA Section 304 Compliance Program, enclosed please find the In-House Release Prevention Program Plan ("IRP Program Plan") required by Part II of this section and designed to prevent the release of hazardous substances into the environment from PREPA's facilities. Each of PREPA's facilities included in the Consent Decree is submitting a Plan at this time.

If you have any questions on this matter, you may contact us at above letterhead address or call (787) 289-4959 or 4960.

Cordially,

Francisco E. Lopez, Head Environmental Protection and Quality Assurance Division

Enclosures

JRJ/NB/vma

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

CARIBBEAN ENVIRONMENTAL PROTECTION DIVISION CENTRO EUROPA BUILDING, SUITE 417 1492 PONCE DE LEON AVENUE, STOP 22 SAN JUAN, PR 00907-4127

January 25, 2002

Mr. John Uphoff Head Environmental Law Division Puerto Rico Electric Power Authority P.O. Box 9386 San Juan, Puerto Rico 00907-0386

Re: <u>U.S. v. PREPA</u> Consent Decree Compliance; Civil Action No. 93-2527 Approval Subject to Modification of the In-house Release Prevention Program Plan

Dear Mr. Uphoff:

This letter is being written in order to provide PREPA with an Approval Subject to Modification of the In-House Release Prevention Program Plan, submitted to EPA on May 13, 1999, pursuant to Article IX, Part II, of the above-referenced Consent Decree.

Approval Subject to Modification is being granted to this Plan, with the understanding that PREPA will address and incorporate the following modification into the In-House Release Prevention Program Plan, pursuant to the requirements of the Consent Decree:

The In-House Chemical Release Prevention Program Plan for each plant includes Section 4 - a description of the facility and the chemicals on site. As part of this Section, a table is included, labeled Table 4 - The Regulated Chemicals/Products Currently in Use at each plant. In some cases, the reportable quantity is listed incorrectly. These charts should be reviewed (the last revision date is early 1999) and the reportable quantities corrected.

With the understanding that the above modification will be adequately incorporated into the In-House Release Prevention Program Plan, the Plan, as submitted to EPA, is hereby conditionally approved. With this approval, EPA also requires that in order to receive final approval, PREPA must include and submit to EPA for review, an appropriate time schedule for implementation of the various tasks, including but not limited to, the projected dates for the commencement, implementation and completion of all work or required pursuant to the Modified In-House Release Prevention Program Plan. Such a schedule should be devised to ensure that PREPA is in compliance with the requirements of Section IX, parts II and IV, of the Consent Decree.

PREPA is also hereby required to re-submit the Modified In-house Release Prevention Program Plan, which includes both the Reportable Quantity corrections and the required time schedule for implementation, within sixty days of receipt of this Approval Subject to Modification.

Please don't hesitate to contact Geoffrey Garrison, of my staff, at (787) 977-5820 if you would like to discuss this or any other aspect of PREPA's compliance with the Consent Decree.

Sincerely yours,

Carl-Axel P. Soderberg

Director

cc:

W. Mugdan, ORC

C. Soderberg, CEPD

H. Vélez, ORC

A. Praschak, ORC

G. Garrison, CEPD

F. Claudio, CEPD

H. Rosario, PREPA

CN 078-04487 Rev. 5/98

GOVERNMENT OF PUERTO RICO PUERTO RICO ELECTRIC POWER AUTHORITY

2002 APR 16 PM 4:3.

PROTECCION AMPICACION

www.prepa.com



April 16, 2002

Ms. Louise Schiffer
Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Post Office Box 7611
Ben Franklin Station
Washington, D.C. 20044

RE: U.S. v. PREPA – Civil Action No. 93-2527
Reference DOJ Case No. 90-5-2-1-1750
Consent Decree Compliance
In-House Release Prevention Program Training Seminar
In-House Release Prevention Program Plan

Dear Ms. Schiffer:

In early February 2002, the Puerto Rico Electric Power Authority ("PREPA") received two letters from the United States Environmental Protection Agency Caribbean Environmental Protection Division (hereinafter "EPA") referenced as follows: (i) Approval Subject to Modification of the Curriculum for an In-house Release Prevention Program Training Seminar, and (ii) Approval Subject to Modification of the In-house Release Prevention Program Plan

The letter providing for an "Approval Subject to Modification of the Curriculum for an Inhouse Release Prevention Program Training Seminar (hereinafter "Training Seminar Curriculum") requested PREPA to address the following modifications to the Training Seminar Curriculum:

(1) The reporting of a release must proceed immediately. The term was defined as not exceeding two hours. However, all references to reporting a release must state "immediately".
 (2) The maximum fine per day for each sixty.

(2) The maximum fine per day for each violation must be adjusted from \$25,000 to \$27,500

(3) Page 35 of the Training Seminar Curriculum must be corrected for those chemicals with no listed CERCLA or EPCRA RQ; since no reporting is required.

PREPA proceeded to incorporate the above mentioned modifications in the Training Seminar Curriculum, and hereby re-submits the Training Seminar Curriculum in accordance with Section IX of the Consent Decree (English and Spanish versions).

CONFIGURDAD DE CALDAL

02 APR 30 AH 10: 06

Furthermore, pursuant to the agreements reached during the March 27, 2002 meeting between the representatives of the EPA and PREPA, the projected dates for the training seminars will be furnished to EPA's Caribbean Environmental Protection Division (Mr. Geoffrey Garrison and Mr. Héctor Vélez) on a quarterly basis. In the event of schedule changes, PREPA will submit to EPA's Caribbean Environmental Protection Division the new dates and/or places were the training seminars will be offered. PREPA expects to provide at least one seminar per quarter.

With regard to EPA's "Approval Subject to Modification" of the In-House Release Prevention Program Plan, the following requirement was requested:

"The In-House Chemical Release Prevention Program Plan for each plant includes Section 4-a description of the facility and the chemicals on site. As part of this Section, a table is included, labeled Table 4-The Regulated Chemicals/Products currently in use at each plant. In some cases, the reportable quantity is listed incorrectly. These charts should be reviewed (the last revision date is early 1999= and the reportable quantities corrected".

As discussed during the March 27, 2002 meeting, PREPA made the latest corrections to the above mention Table 4. The corrected Table 4 for each power plant are hereby resubmitted (Attachment 2). Furthermore, PREPA is hereby submitting the amended work schedules of the In-House Release Prevention Program Plan for each power plant (Attachment 3) as discussed previously.

If you have any questions, please call me at (787) 289-4195.

Cordially,

'Attachments

cc Carl Soderberg Walter Mugdan EPA Response & Prevention Branch

Geoffrey Garrison
Héctor M. Alejandro (w/o attachments)
Jorge L. Leavitt (w/o attachments)
Gerardo Léctora (w/o attachments)
Iván Cardona (w/o attachments)
José Alcaide (w/o attachments)
Jaime A. Plaza (w/o attachments)
Bienvenido Ortiz (w/o attachments)
Jorge Rivera (w/o attachments)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF REGIONAL COUNSEL CENTRO EUROPA BUILDING, SUITE 207 1492 PONCE DE LEON AVENUE, STOP 22 SAN JUAN, PR 00907-4127

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August 26, 2002

John A. Uphoff Figueroa

Acting Head

Environmental Law Division

Puerto Rico Electric Power Authority

P. O. Box 364267

San Juan, Puerto Rico 00936-4267

U.S. v. PREPA Consent Decree Compliance; Civil Action No. 93-2527: In-House Release Prevention Program Training Seminar and

In-House Release Prevention Program Plan

Dear Counselor:

On January 25, 2002, EPA sent to PREPA the Approval Subject to Modification Letters for the IRP Program Training Seminar and IRP Program Plan. On April 16, 2002, PREPA submitted to EPA the modified documents. After a careful review of the re-submitted materials, EPA is hereby approving the IRP Program Training Seminar and IRP Program Plan as provided for in Part IV, Paragraph 14 of the Consent Decree ("CD").

In accordance with the above, EPA wishes to clarify that the provisions applying to the Consent Decree IRP Program Training . Seminar and the IRP Program Plan (CD Section IX) are in effect beginning today.

If you have any questions, please contact me at (787) 977-5850.

Sincerely,

Héctor L. Vélez Cruz

Assistant Regional Counsel

Enclosures

Geoffrey Garrison, CEPD (by hand)

May 18, 1999

CERTIFIED MAIL Z 356 691 277

Mr. Andrew L. Praschak
US Environmental Protection Agency
Region II, Caribbean Environmental Protection
Division
Centro Europa Bldg., Suite 417
1492 Ponce De León Ave.
Santurce, PR 00907

Dear Mr. Praschak:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to CERCLA Section 103 and EPCRA Section 304 Training Program of the Consent Decree between the Puerto Rico Electric Power Authority and the United States of America entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the curriculum for an In-House Prevention Program Training seminar.

If you have any questions on this matter, you may contact us at above letterhead address or call (787) 289-4959 or 4960.

Cordially

Francisco E. López, Head Environmental Protection and Quality Assurance Division

Enclosures

Lois J. Schiffer, US Department of Justice Walter Mugdan, USEPA

JRJVma

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May 18, 1999

CERTIFIED MAIL Z 356 691 257

Mr. Walter Mugdan U.S. Environmental Protection Agency Regional Counsel, Region II Office of Regional Counsel 290 Broadway New York, NY 10007-1866

Dear Mr. Mugdan:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to CERCLA Section 103 and EPCRA Section 304 Training Program of the Consent Decree between the Puerto Rico Electric Power Authority and the United States of America entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the curriculum for an In-House Prevention Program Training seminar.

If you have any questions on this matter, you may contact us at above letterhead address or call (787) 289-4959 or 4960.

Cordially

Francisco E. López, Head Environmental Protection and Quality Assurance Division

Enclosures

JRJvma

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September 24, 2004

CERTIFIED MAIL 7002 2030 0002 8889 0432

Mr. Carl Axel-P Soderberg, Director United States Environmental Protection Agency Caribbean Environmental Protection Division Centro Europa Building, Suite 417 1492 Ponce De León Avenue, Stop 22 San Juan, PR 00907-4127

Dear Mr. Soderberg:

Re: U.S. v. PREPA Consent Decree – Civil Action No. 93-2527 In-House Release Prevention (IRP) Program Training Seminar Final Report

On a letter dated August 26, 2002, the Environmental Protection Agency (EPA) notified the Puerto Rico Electric Power Authority (PREPA) the approval of the IRP Program Training Seminar. The letter also clarified that the provisions of the Consent Decree applying to this program began effect on August 26, 2002. Please see Appendix 1. Pursuant to the objectives of the Consent Decree, PREPA completed the IRP Program Training Seminar within twenty-four (24) months from its approval.

Section IX (17) of the Decree requires that within thirty (30) days of completion of the IRP Program Training Seminar, PREPA shall submit to EPA for approval or approval subject to modification, an IRP Program Training Seminar Final Report. Complying with this requirement, PREPA is hereby notifying that it has completed all aspects of the IRP Program Training Seminar and submitting the related documentation along with the required certification signed by the Electrical System Director.

The seminar was presented in a one-hour session to PREPA's contractors who have control over or may come into contact with any hazardous substance at PREPA's facilities. Certifications of these trainings were submitted to EPA within thirty (30) days of the end of each quarter, as required under Section IX (10). Copies of the certifications submitted are included in Appendix 2.

Since the effective date of the Program, each new PREPA employee who has control over or may come into contact with any hazardous substance at PREPA's facilities, was trained within six (6) months of the employee's assumption of responsibilities at the Facilities. Certifications of the new PREPA employees trainings were submitted to EPA within thirty (30) days of the presentation of the training to the employee, as stated under Section IX (11). Appendix 3 contains copies of the new PREPA employees training certifications that have been submitted to EPA. As of August 26, 2004, a total of 270 new employees were trained.

Mr. Carl Axel-P Soderberg Page 2 September 24, 2004

All PREPA employees who have control over or may come into contact with any hazardous substance at PREPA's facilities were trained as required under Section IX (7). The training sessions were conducted at the Training Center (*CASE*) and several other PREPA facilities to assure compliance with the program. Lists of the personnel trained as of August 26, 2004 for each PREPA's facility, certified by the corresponding facility manager are included in Appendix 4. A total of 1,797 employees were trained under this program.

The IRP Program Training Seminar will be presented at the CASE for PREPA's employees at least twice a year for an additional year. Should you have any questions, please contact Mrs. Nitza D. Vázquez at (787) 289-3118.

Cordially

Juan F. Alicea Flores, Director

Planning and Environmental Protection

MAP/NV/MMP/BEA/acr

Enclosures

Chief, Environmental Enforcement Section (w/enclosures) 7002 2030 0002 8889 0449 Environment and Natural Resources Division

Héctor Vélez, Assistant Attorney (w/o enclosures) 7002 2030 0002 8889 0470 U.S. Environmental Protection Agency Region II, Caribbean Environmental Protection Division

U.S. Environmental Protection Agency (w/enclosures) 7002 2030 0002 8889 0456 Response and Prevention Branch Emergency and Remedial Response Division

U.S. Environmental Protection Agency (w/enclosures) 7002 2030 0002 8889 0463 Regional Counsel, Region II
Office of Regional Counsel

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TO HORD WINE

COMMONWEALTH OF PUERTO RICO

PUERTO RICO ELECTRIC POWER AUTHORITY SAN JUAN, PUERTO RICO



PO Box 364267 San Juan, Puerto Rico 00936-4267

CERTIFICATION La-House Release Prevention Program Training Seminar Final Report

penalty of law, that the information contained in or accompanying this submission was prepared by qualified personnel who properly gathered and evaluated the information submitted. I further certify, based on a reasonable inquiry of the person or persons responsible for gathering such information, that the information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Edwin Rivera Serrano Electrical System Director

APPENDIX K

UNDERGOUND STORAGE TANK CERTIFICATIONS

084-06167 RÉV. 3/96

PUERTO RICO ELECTRIC POWER AUTHORITY

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

April 20, 1999

CERTIFIED MAIL P 235 343 917

U.S. Environmental Protection Agency Groundwater Compliance Section Division of Enforcement and Compliance Assurance 290 Broadway New York, NY 10007-1866

Ladies and Gentlemen:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Article X of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U. S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the Underground Storage Tank documents.

Cordially,

Eli Matos Alicea

Environmental Law Division

Enclosure

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PUERTO RICO ELECTRIC POWER AUTHORITY

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-1267

April 20, 1999

CERTIFIED MAIL P 235 343 914

Ms. Lois J. Schiffer
Chief, Environmental Enforcement Section
U.S. Department of Justice
PO Box 7611
Ben Franklin Station
Washington, DC 20044

Dear Ms. Schiffer:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Article X of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U. S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the Underground Storage Tank documents.

Cordially,

Environmental Law Division

Enclosure

P 235 343 514

MS. LOIS SCHIFFE	nal Mail (See reverse) R, CHIEF, ENV. S
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084-06167 REV. 3/96

PUERTO RICO ELECTRIC POWER AUTHORITY

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

April 20, 1999

CERTIFIED MAIL P 235 343 916

Mr. Walter Mugdan
U. S. Environmental Protection Agency
Regional Counsel, Region II
Office of Regional Counsel
290 Broadway
New York, NY 10007-1866

, Dear Mr. Mugdan:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Article X of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U. S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the Underground Storage Tank documents.

Cordially,

Eli Matos Alicea

Environmental Law Division

Enclosure

P 235 343 916

US Postal Service Receipt for Certified Mail
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P 235 343 916

MAIL

084-06167 RÉV. 3/96

PUERTO RICO ELECTRIC POWER AUTHORITY

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

April 20, 1999

CERTIFIED MAIL P 235 343 915

Mr. Andrew L. Praschak Region II, Caribbean Environmental Protection Division Centro Europa Building, Suite 417 1492 Ponce de Leon Ave. Santurce, PR 00907

Dear Mr. Praschak:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Article X of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U. S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the Undergroun Storage Tank documents.

Cordially,

Eli Matos Alicea

Environmental Law Division

Enclosure

235 343 915

US Postal Service

Receipt for Certified Mail
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SMR.10 ANDREW L. PRASCHAK, REGION I STARIBBEAN ENV. PROT. DIV.

CENTRO SURCEA BEDG, STE. 417, SANT.

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P 235 343 915

MAIL

San Juan, Puerto Rico

able Address



PO Box 364267 San Juan, Puerto Rico 00936-4267

CONSENT DECREE SECTION X UNDERGROUND STORAGE TANK COMPLIANCE PROGRAM

CERTIFICATION

I hereby certify, under penalty of law, that I have personally examined and am familiar with the information which, to the best of my knowledge, verifies that all underground storage tanks have been permanently closed on site or removed from the PREPA San juan Power Plant, the Palo Seco Power Plant, the Aguirre Power Plant, and the Monacillos Transmission Center as of the date that PREPA signed this Consent Decree; that, to the best of my knowledge, there are no underground storage tanks present at the Costa Sur Power Plant; and that, based on my inquiry of those individuals immediately responsible for compiling and obtaining the information, I believe that this information is true, accurate, and complete.

Eng. Francisco E. López Head Environmental Protection and Quality Assurance Division

San Juan, Puerto Rico

able Address



PO Box 364267 San Juan, Puerto Rico 00936-4267

CONSENT DECREE SECTION X UNDERGROUND STORAGE TANK COMPLIANCE PROGRAM

CERTIFICATION

I hereby certify, under penalty of law, that I have personally examined and am familiar with the information which, to the best of my knowledge, verifies that any underground storage tank system at the Aguirre Combined Cycle Plant is an emergency spill or overflow containment underground storage tank system that is expeditiously emptied after use and that, based on my inquiry of those individuals immediately responsible for compiling and obtaining the information, I believe that this information is true, accurate, and complete.

Eng. Francisco E. López, Head Environmental Protection and Quality Assurance Division

San Juan, Puerto Rico

able Address



P O Box 364267 San Juan, Puerto Rico 00936-4267

CONSENT DECREE SECTION X UNDERGROUND STORAGE TANK COMPLIANCE PROGRAM

CERTIFICATION

I hereby certify, under penalty of law, that I am familiar with the information submitted herein and that, based on my inquiry of those individuals immediately responsible for compiling and obtaining the information, I believe that the information submitted is true, accurate and complete.

Eng. Francisco E. López, Deac Environmental Protection and Quality Assurance Division

APPENDIX L

ENVIRONMENTAL REVIEW CONTRACTOR (ERC)



SAN JUAN, PUERTO RICO





PO Box 364267 San Juan, Puerto Rico 00936-4267

May 18, 1999

CERTIFIED MAIL Z 274 023 281

Mr. Walter Mugdan U.S. Environmental Protection Agency Regional Counsel, Region II Office of Regional Counsel 290 Broadway New York, NY 10007-1866

Dear Mr. Mugdan:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Section XI.5 of the Consent Decree between the Puerto Rico Electric Power Authority and the United States of America entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the Environmental Review Contractor Workplan.

If you have any questions on this matter, you may contact us at above letterhead address or call (787) 289-4959 or 4960.

Cordially,

Francisco E. Łópeź, Head Environmental Protection and

Quality Assurance Division

Enclosures



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF REGIONAL COUNSEL CENTRO EUROPA BUILDING, SUITE 207 1492 PONCE DE LEON AVENUE, STOP 22 SAN JUAN, PR 00907-4127

May 18, 1999 let

CERTIFIED MAIL — RETURN RECEIPT REQUESTED

November 19, 1999

Mr. Eli Matos Head Environmental Law Division Puerto Rico Electric Power Authority P.O. Box 364267 San Juan, Puerto Rico 00936-4267

Re:

U.S. v. PREPA Consent Decree Compliance; Civil Action No. 93-2527

Disapproval of Environmental Review Contractor Workplan

Dear Mr. Matos:

This letter is being sent in order to provide EPA's Disapproval, in whole, of the Environmental Review Contractor Workplan ("Workplan") submitted to EPA by PREPA on May 18, 1999, pursuant to Section XI. paragraph 5. of the Consent Decree.

Section XI. paragraph 5. of the Consent Decree provides that within sixty (60) days of entry of this Consent Decree, PREPA shall submit to EPA, an ERC Workplan, including, at a minimum, the following:

- procedure to be followed by PREPA with respect to contracting with the ERC;
- procedure for PREPA to provide to the ERC, concurrent with its submissions to EPA, copies of all workplans, data, Air Compliance Status Reports (including, but not limited to, opacity excess emissions, oxygen range, and fuel viscosity data, but not including telemetric data submissions pursuant to Section V of this Consent Decree), Quarterly Status Reports required by Section VI of this Consent Decree, and other submissions required under this Consent Decree;
- scope of responsibilities of the ERC, at least including:
 - review of documents, data and reports submitted to EPA by PREPA and/or submitted to the ERC by EPA concerning PREPA's compliance with the provisions of this Consent Decree;
 - on-site inspection-of projects being conducted by PREPA under this Consent Decree;

- provision of a forum (at least every sixty (60) days) for communicating to the communities, PREPA, and EPA, information relating to PREPA's compliance with the provisions of this Consent Decree;
- provision of a mechanism for periodically (at least every sixty (60) days)
 conveying to PREPA and EPA community concerns relating to PREPA's
 compliance with the provisions of this Consent Decree; and
- any other provisions, not inconsistent with the purposes of the ERC Program as set forth herein, necessary to ensure the proper application of the public funds deposited by PREPA for this Program.
- procedures for adequately observing PREPA's visible emissions in affected communities near PREPA's facilities; and
- procedures for the ERC to maintain a repository, open to the public and accessible to communities located near PREPA's facilities, containing copies of all documents provided to and generated by the ERC.

Section XI. paragraph 6. provides, "EPA will review the ERC Workplan submitted pursuant to paragraph 5 above, and will inform PREPA, in writing, of EPA's approval, modification and approval, or disapproval of such Workplan, in whole or in part, and the specific grounds for any disapproval."

Pursuant to the requirements of this paragraph of the Consent Decree, EPA is disapproving this Workplan on the following specific grounds:

General Problematic Areas of the Workplan, as submitted:

- 1) The Workplan, as prepared and submitted, serves a function more akin to a contract between PREPA and the ultimate Contractor and thereby does not present a Workplan that EPA can review and approve to ensure that the project will be implemented according to the spirit and the letter of the agreement with EPA in Section XI. of the Consent Decree.
- 2) The Workplan, as prepared and submitted, contains excessive requirements which may well serve to divert the finite funding available for this project away from the stated goal of "reviewing PREPA's implementation of the terms of this Consent Decree, and informing the public of the activities conducted under this Consent Decree," by seeming to require excessive expenditures on such items as "special cautionary measures," "security expenses (guards, alarm system, closed circuit cameras, etc.) of the repository," "the expenses resulting from the copies and materials used in the reproduction of documents, data, and reports supplied by PREPA to the ERC shall be covered with the funds assigned to this project," etc.
- 3) The Workplan, as prepared and submitted, contains vague, confusing or ambiguous references

to standards and requirements which, as written, could be misinterpreted and misapplied in a manner which may serve to undermine some of the stated goals of this project as stated in the Consent Decree. Examples of such references include:

- · "A high level of professional skills and work ethics standards [sic] is required from the ERC."
- · "The ERC and its staff must also dress appropriately for the activity in which they are engaged..."
- "Moreover, the ERC shall follow all PREPA's regulations and guidance including but not limited to safety procedures, confidentiality requirements and be solely responsible for its staff compliance."
- · "Accordingly, the ERC must demonstrate the ability to substantiate all facts."
- "All information acquired in the course of the ERC's duties is for official use only.

 Accordingly, the ERC and its staff should not speak of any product, process, manufacturer, or person in a derogatory manner."
- "The ERC should make useful educational and safety information available to the public. This policy, however, does not extend to information relating to privileged information or confidential business information as protected to applicable laws."
- "PREPA shall also have the right to include any other requirement, not inconsistent with the purpose of the ERC Program as set forth herein, deemed appropriate to unsure [sic] that the public funds appropriated for this Project are spent in a manner that benefits the people of Puerto Rico."
- "These laws and regulations that are designed to protect privileged, confidential and/or confidential business information include but are not limited to:
 - internal personnel rules and practices of PREPA;
 - · records or information compiled for law enforcement purposes;
 - geological and geophysical information and data, including maps, concerning wells;
 - · others
- "... the ERC shall designate a public place to hold meetings in order to discuss PREPA's status regarding the Consent Decree ..."
- "The ERC shall preserve and make available to PREPA, the EPA and the general community upon request, a copy of all records, logs, and documents regarding the Consent Decree. The availability of such documents will not harm the confidentiality and protection granted by law

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and regulations to certain documents as discussed before."

- "In order to contract the services of the ERC, the Puerto Rico Electric Power Authority must follow certain requirements as established by the Government of Puerto Rico. These requirements may vary and others could be incorporated as the different applicable agencies of the Government of Puerto Rico deems [sic] so appropriate."
- "Any request for a document produced under the Consent Decree should be made in advance to the Environmental Protection and Quality Assurance Division."

Specific Consent Decree Requirements not adequately addressed in the Workplan.

The following specific requirements of Section XI. paragraph 5. of the Consent Decree were not adequately addressed in the ERC Workplan or were addressed in a manner contrary to the intent of the requirements of the Consent Decree and therefore, also constitute grounds for disapproval of the Workplan:

- procedure to be followed by PREPA with respect to contracting with the ERC;
- procedure for PREPA to provide to the ERC, concurrent with its submissions to EPA, copies of all workplans, data, Air Compliance Status Reports (including, but not limited to, opacity excess emissions, oxygen range, and fuel viscosity data, but not including telemetric data submissions pursuant to Section V. of this Consent Decree), Quarterly Status Reports required by Section VI. of this Consent Decree, and other submissions required under this Consent Decree;
- scope of responsibilities of the ERC, at least including:
 - provision of a mechanism for periodically (at least every sixty (60) days) conveying to PREPA and EPA community concerns relating to PREPA's compliance with the provisions of this Consent Decree; and
- procedures for adequately observing PREPA's visible emissions in affected communities near PREPA's facilities;

Previous Background of this Project:

Because of the magnitude of the deficiencies initially noted in the Environmental Review Contractor Workplan submitted by PREPA, representatives of EPA met with representatives of PREPA to discuss the possibility of informally resolving these deficiencies in order to approve the Workplan. As a result of that meeting, PREPA agreed to respond to EPA's concerns and submit a revised Workplan on or before October 8, 1999. On October 12, 1999, I sent a letter to John Uphoff, of your staff, inquiring as to the status of the revised Workplan and requesting its submission to EPA. As of the date of this letter, I have not received any indication from PREPA that it has any intention of submitting a revised Workplan which addresses these deficiencies and

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those discussed during the meeting. As a result, this project, vital to the interests of the communities affected by PREPA's operations, has been paralyzed.

Determination:

EPA, therefore, has no alternative but to officially Disapprove this Workplan in it's entirety and follow the procedures provided for in the Consent Decree to resolve this matter. Section XI. paragraphs 7. and 8. state that, "In the event the EPA disapproves of an ERC Workplan, in whole or in part, within thirty (30) days of receipt of EPA's disapproval, PREPA shall revise and resubmit such Workplan for EPA review and approval. Upon re-submission of an ERC Workplan pursuant to paragraph 7 above, EPA will review such Workplan and inform PREPA, in writing, of EPA's approval, modification and approval, or disapproval of the Workplan, in whole or in part, and the specific grounds for any disapproval." Accordingly PREPA is required to submit a revised, approvable Workplan to EPA within thirty days of receipt of this letter.

Stipulated Penalties:

Pursuant to Section XIV. paragraph 51. Of the Consent Decree, stipulated penalties will be payable to the United States in the amount of \$375 per violation per day for the following ("Type ERC Program Violations"): failure to submit an adequate Environmental Review Contractor Workplan. Under the terms of the Consent Decree, the failure to submit an adequate Environmental Review Contractor Workplan occurred on May 18, 1999 when the first deficient draft was submitted to EPA. However, because of the period of informal discussions suggested in good faith by EPA, to attempt to revise the contents of the Workplan, EPA has determined that the appropriate date on which to begin the assessment of "per day" stipulated penalties will commence on the date of PREPA's receipt of this letter.

For this reason, I encourage PREPA to revise and resubmit the Workplan to EPA as soon as possible. To assist you in this revision, I am resubmitting to you, together with this letter, a suggested Workplan to guide you in this project.

Please feel free to call me to discuss this issue or any other issue related to PREPA's compliance with the Consent Decree.

Sincerely yours,

Audrew L. Praschak

Associate Regional Counsel

co.

W. Mugdan, ORC (via e-mail)

C. Soderberg, CEPD

II. Vélez, ORC (via e-mail)

J. Uphoff, PREPA

J. Rivera, CEPD

T. Rodríguez, CEPD

P. Flynn, DOJ

M. Ballestero, PREPA

M. Cordero, PREPA

J. Scgurola, PREPA

San Juan, Puerto Rico





P O Box 364267 San Juan, Puerto Rico 00936-4267

May 26, 2000

CERTIFIED MAIL

Chief, Environmental Enforcement Section Environment and Natural Resources Division U.S. Department of Justice Post Office Box 7611 Ben Franklin Station Washington, D.C. 200044

U.S. Environmental Protection Agency Region II, Caribbean Environmental Protection Division Centro Europa Building 1492 Ponce de León Avenue Suite 417 Santurce, Puerto Rico 00907

U.S. Environmental Protection Agency Regional Counsel, Region II Office of Regional Counsel 290 Broadway New York, NY 10007-1866

RE: U.S.A. V. PREPA, Civil Action NO. 93-2527 CCC Consent Decree Environmental Review Contractor Program

Dear Sirs:

Pursuant to Section XI of the Consent Decree between the United States of America and the Puerto Rico Electric Power Authority ("PREPA") and the corresponding extensions mutually agreed between the above mentioned parties, PREPA hereby notifies the names of the proposed contractors capable of performing the functions of the Environmental Review Contractor ("ERC"):

 University of Puerto Rico Medical Science Campus School of Public Health

- Metropolitan University School of Environmental Affairs
- Polytechnic University of Puerto Rico

For each proposed contractor, we are including the names and qualifications, plus additional information, PREPA believes will serve EPA in obtaining community input and confirming the qualifications of the proposed contractors.

In considering each proposed contractor, PREPA studied all aspects of each proposal, including the following important qualifications (i) staff and managerial team of each proposal (including but not limited to experience, commitment, educational preparation, training, permits/licenses, field work experience, communication skills), (ii) ability to review all documents required under the ERC program and coordinate site visits in compliance with all applicable regulatory and legal requirements, (iii) proposals for the development of forums for communicating with the communities, general public, interested citizens, EPA and PREPA (including but not limited to organizational concepts, locations, sites, communication skills, dissemination of information, educational programs and efforts, experience with community service, accessibility to the (iv) ability to communicate with the communities and the general public, and creativity in the development of ideas to inform the concerns to EPA and PREPA and (v) development of the document repositories (taking into consideration aspects such as inventory, locations, facilities, itinerary and accessibility).

The preceding aspects served as the principal qualifying basis for their selection. The proposed contractors are local, non-profit entities that are publicly accepted as leaders in environmental and communication matters in Puerto Rico. The proposed contractors have the needed experience in providing technical, research, training and educational support to Puerto Rico. PREPA believes these proposed contractors comply with the qualification requirements needed for a successful ERC program.

If you have any questions, please do not hesitate to call me at (787) 289-4192.

Respectfully,

John A. Uphoff-Figueroa
Principal Environmental Attorney

c Josué A. Colón Francisco E. López Bienvenido Casillas Abraham Ortiz Elí Matos Alicea



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

CARIBBEAN ENVIFIONMENTAL PROTECTION DIVISION CENTRO EUROPA BUILDING, SUITE 417 1492 PONCIE DE LEON AVENUE, STOP 22 SAN JUAN, PR 00907-4127

Certified Mail — Return Receipt Requested

December 14, 2000

Mr. John Uphoff
Environmental Law Division
Puerto Rico Electric Power Authority
P.O. Box 9386
San Juan, Puerto Rico 00907-0386

Re: <u>U.S. v. PREPA</u> Consent Decree Compliance; Civil Action No. 93-2527

Notice of EPA Determination of Qualified Contractor for Environmental Review Contractor

Dear Mr. Uphoff:

On May 26, 2000, pursuant to Section XI (Environmental Review Contractor Program) paragraph 9 of the Consent Decree, PREPA notified EPA, in writing, of the names of the proposed contractors 1 toonsidered capable of performing the functions of the Environmental Review Contractor (ERC). This letter is intended to inform you that EPA has conducted an extensive analysis of the proposals submitted and used reasonable efforts to seek community input regarding each of the proposals. Based on this analysis as well as the community input, EPA has determined that the **Graduate School of Public Health of the University of Puerto Rico** (GSPH-UPR) qualifies for the position of Environmental Review Contractor under the Consent Decree, pursuant to Section XI, paragraph 9 of the Consent Decree.

Some of the factors which played a role in EPA's determination, include:

- The depth and analysis provided in GSPH-UPR's proposal which included not merely a recitation of the requirements of the Consent Decree but also in-sight into how the project needs to be structured with some creative recommendations for implementation;
- The status of GSPH-UPR as a local, nonprofit organization with a history of experience providing educational, research, training and technical services to communities, government agencies and other public and private organizations concerning matters related to the environmental field;
- The concept of incorporating Environmental Technology Group, Inc. as part of the team assigned to this project;
- The availability of professionals encompassing a wide variety of areas of expertise and professional backgrounds to work on the project, including the designation of José Norat, Ph.D., J.D. as the

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Program Manager. The team is proposed to be made up of a panel of university professors, researchers, engineers, environmental managers and consultants, and graduate students;

- The proposal to establish a document control program and a mechanism to ensure that all documents are reviewed by processionals who are specialists in the different areas of concern;
- The availability y of a pool of resources pertaining to existing laws and regulations to corroborate compliance with the Consent Decree;
- The commitment to adhere to the time frames set forth by EPA for reviewing specific documents;
- The presentation of an innovative Preliminary Document Review Program which specifically includes establishing a compliance baseline from which the progress of each of the compliance items can be measured, preparing document abstracts which summarize the contents of each document and the definition of the use of the document in other tasks, and preparation of a document summary which would identify the need for additional information and provide the basis for the initial site visits;
- The presentation of a well thought out Document Control and Management System which will specifically provide for a Document Repository, Document Control, Document Index and Abstract, Document Classification System and Document Reproduction and Distribution;
- GSPH-UPR's analysis of the different projects under the Consent Decree and its independent determination that the NPDES and SPCC construction activities are two areas which may require on-site evaluation;
- The attention to cost effective implementation of the project, including the idea to organize field inspections using a multidisciplined approach;
- The creative and efficient analysis of the Public Participation aspect of the project which incorporated Repository Establishment and Maintenance, Program Reports and Releases and Public Meetings. In particular, the GSPH-UPR proposal demonstrated an understanding of the importance of this aspect of the project by emphasizing the role of the Program Coordinator at public meetings, the effort to discuss its findings in layman's terms and the importance of offering the public the opportunity to submit questions, comments and complaints regarding the compliance with the Consent Decree; and
- The presentation of a separate Community Concerns Program with a prioritization of Compliance Progress Reports, Notices of Immediate Concern and Periodic Meetings.

As a part of its review and analysis of the different proposals submitted by PREPA, EPA engaged in discussions with various community representatives from different geographical areas of the island. These organizations understood the importance of their role, consulted with the various communities they represent and provided valuable insight into the merits of each proposal. At the end of the process, these organizations were unanimous in their support for GSPH-UPR's proposal.

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They also indicated a high comfort level with the reputation of GSPH-UPR and its ability to perform this important role.

As stated in Section XI, paragraph 9 of the Consent Decree, "Within sixty (60) days of receipt of notification from EPA that at least one of the ERCs proposed by PREPA qualifies for the position, PREPA shall enter into a contract with any qualifying ERC, in conformance with the approved ERC Workplan." I trust that you understand the importance of this project to EPA, PREPA and the communities and as such, will ensure that the contract with GSPH-UPR is entered into in the time frame provided by the Consent Decree.

Please don't hesitate to call Andrew Praschak of the Office of Regional Counsel if you have any questions regarding this approval or any matter related to compliance with the Consent Decree.

Sincerely yours,

Carl-Axel P Soderberg

Director

cc:

A. Praschak, ORC

W. Mugdan, ORC

H. Vélez, ORC

C. Jiménez, ERRD

F. Claudio, CEPD

T. Rodríguez, CEPD

C. O'Neill, CEPD

J. Rivera, CEPD

P. Valentin, CEPD

P. Flynn, DOJ

M. Cordero, PREPA

2002-P00097

COMMONWEALTH OF PUERTO RICO PUERTO RICO ELECTRIC POWER AUTHORITY

CONTRACT

In San Juan, Puerto Rico, this _	29	_day of _	june	20 01
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AS FIRST PARTY: The Puerto Rico Electric Power Authority, hereinafter referred to as PREPA, a public corporation and government instrumentality of the Commonwealth of Puerto Rico, created by Act of May 2, 1941, No. 83, as amended, employer's Social Security number 66-0433747, represented in this act by its Executive Director, Héctor Rubén Rosario Hernández, of legal age, married, USA citizen, and resident of San Juan, Puerto Rico.

AS SECOND PARTY: University of Puerto Rico, Medical Sciences Campus, Graduated School of Public Health, hereinafter referred to as the Contractor, a government instrumentality of Commonwealth of Puerto Rico, with employer Social Security number 66-0433762, represented in this act by Acting Chancellor, Dr. José Rafael Carlo Izquierdo, of legal age, married, and resident of San Juan, Puerto Rico, and with legal capacity to contract according to the University of Puerto Rico Law, Act of January 20, 1966, No. 1, 18 LPRA Sec. 601 and Certification No. 107-84-85 of Superior Council of Education, article VIII, subparagraph A.

WHEREAS: As part of the Civil Action Num. 93-2527 CCC, the United States Government, on behalf of the Administrator of United States Environmental Protection Agency, (hereinafter referred to as "EPA") and PREPA agreed to enter into a Consent Decree that was become effective on March 19, 1999.

WHEREAS: As part of the environmental projects in the Consent Decree, PREPA shall develop an Environmental Review Contractor Program (hereinafter the Program) in which PREPA agrees to deposit one million (\$1,000,000) into a interest bearing escrow account to fund the Program.

WHEREAS: The Consent Decree states that the selected Contractor shall be a local, non-profit organization with staff who has the experience in providing educational, research, training, and technical services to communities, government agencies, and other public and private organizations in the environmental field. The Contractor also shall have the ability to communicate in both English and Spanish.

WHEREAS: By virtue of Law No. 83 of May 2, 1941, as amended and pursuant the Consent Decree, PREPA is empowered to enter into this Contract.

THEREFORE: The parties agree to contract the identified services within the Consent Decree following the next:



TERMS AND CONDITIONS

FIRST: The Contractor shall perform its activities consistent with the previously approved Environmental Review Contractor Workplan (hereinafter the Workplan) under the Consent Decree and with the provisions within this Contract.

SECOND: The Contractor shall perform the review of documents, data and reports submitted to EPA by PREPA and/or submitted to the Contractor by EPA concerning PREPA's compliance with the provisions of the Consent Decree.

THIRD: The Contractor shall perform on-site inspections of projects being conducted by PREPA under the Consent Decree.

FOURTH: The Contractor shall provide a forum (at least every sixty (60) days) for communicating to the communities, PREPA, and EPA, information relating to the compliance with the provisions of the Consent Decree.

FIFTH: The Contractor shall implement a mechanism for periodically (at least every sixty (60) days) conveying to PREPA and EPA concerns relating to PREPA's compliance with the provisions of the Consent Decree.

SIXTH: The Contractor, at the request of PREPA must submit to routine fiscal auditing by PREPA and/ or the Comptroller of the Commonwealth of Puerto Rico, with respect to the activities performed and/or expenditures made under this Contract. The Contractor shall maintain all the documentation produced during the term of duration of the Contract.

SEVENTH: The Contractor recognizes and agrees that PREPA and EPA are under no obligation to implement any recommendation provided by the Contractor

EIGTH: The Contractor must maintain a repository of copies of all documents provided to and generated by Contractor. The procedures to maintain the repository are included in the Workplan.

NINTH: In accordance with the terms and conditions contained herein, PREPA's agrees to pay and the Contractor accept as full payment for the complete performance of this Contract the firm price of one million (\$1,000,000) plus the interest on the escrow account (Interest from the unexpended balances held in escrow account shall not be credited against the \$1,000,000 commitment of PREPA).

The Contractor shall submit its invoices for the tasks performed along with the supporting documentation of the tasks performed and will identify each task and the associated charges related to the performance of the task. The invoice will include a summary of actual hours worked by personnel and will identify them by

name and classification. Direct non-salary expenses such as but not limited to travel expenses will be itemized separately in each invoice.

All invoices submitted by the Contractor shall be subject to PREPA's approval before being paid, and its payments shall be done within thirty (30) after the date of its approval by PREPA.

TENTH: This Contract shall be in effect for a period of one year beginning on the date on which all parties have signed the Contract. The Contract will be extended annually until such time as the funds and the corresponding escrow account interests (as described in the NINTH paragraph) are fully expended.

ELEVENTH: Notwithstanding anything to the contrary in this contract regarding its term, PREPA may, at any moment, terminate, cancel or accelerate its expiration, after giving Contractor a not less than thirty (30) days prior notice, when in PREPA's judgement such action responds to PREPA's best interests. Provided, that in the event the Contractor fails to comply with any of its obligations under the contract, PREPA may declare an immediate contract termination, cancellation or rescission, without prior notice to Contractor. The exercise of its right to terminate, cancel or rescind the contract shall not be understood as a waiver by PREPA to any other remedy it may have under this contract or under the law for delays or breach incurred by the Contractor in the performance of its obligations under the Contract.

TWELFTH: The Contractor shall be considered as an independent contractor for all material purposes under this contract, and all persons engaged or contracted by the Contractor for the performance of its obligations herein, shall be considered as its employees or agents or those of its subcontractors, and not as employees or agents of PREPA.

THIRTEENTH: The appearing parties agree that their responsibilities for damages under this Contract will be governed by the Puerto Rico Civil Code and its case law, as dictated by the Supreme Court of Puerto Rico.

FOURTEENTH: The Contractor shall obtain and maintain in full force and effect during the life of this Contract and thereafter as provided herein, policies of insurance covering all operations engaged in by the Contract, which shall be formally agreed with insurance companies from Puerto Rico, and to that effect it shall provide in original certificates of insurances and endorsements, as follows:

A. Workmen's Compensation Insurance – The Contractor shall provide workmen's compensation insurance as required by Workmen's Compensation Act of the Commonwealth of Puerto Rico. The Contractor shall also be responsible for compliance with said Workmen's Compensation Act by all his subcontractors, agents and invitees.

The Contractor shall furnish a certificate form the State Insurance Fund showing that all personnel employed in the work are covered by the workmen's compensation insurance, in accordance with this contract.

- B. Comprehensive Automobile Liability Insurance The Contractor shall maintain a Comprehensive Automobile Liability Policy with limits of \$500,000 combined single limits covering all owned, nonowned, and hired automobiles used for performing the work contracted herein.
- C. Comprehensive General Liability Insurance The Contractor shall maintain a Comprehensive General Liability Insurance, which will include contractual liability, with limits of \$500,000 combined single limits per occurrence and \$1,000,000 aggregated.
- D. Professional Liability Insurance The Contractor shall maintain a Professional Liability Insurance with minimum limits of \$1,000,000 per occurrence.
- E. The Contractor shall provide Employer's Liability Insurance with minimum bodily injury limits of \$500,000 for each employee and \$500,000 for each accident.

All policies required under this contract shall be endorsed to include:

- As "additional insured":

 Puerto Rico Electric Power Authority
 Risk Management Office
 PO Box 364267
 San Juan, PR 00936-4267;
- A thirty (30) days cancellation or nonrenewable notice sent by certified mail with return receipt to the above address;
- C. An endorsement including this Contract under contractual liability coverage identifying it by number, date, and parties to the contract;
- D. Waiver of subrogation in favor of PREPA;
- E. The breach of any warranty or condition in these policies shall not prejudice the PREPA's rights under the policies.

FIFTEENTH: The Contractor shall be obliged to guarantee in relation with any subcontract done for execution of this Contract, require all his subcontractors to comply with such certification and notify PREPA of such compliance with the following documents:

- A. Certification by the Treasury Department of Puerto Rico (according to Letter Number 1300-13-97 by the Treasury Department of Puerto Rico), assuring previous to the execution of this subcontract by the parties, the subcontractor shall submit an Income Tax Return Filing Certificate, issued by the Treasury Department of Puerto Rico, Area of Internal Revenues, assuring that the subcontractor has filed his Income Tax Return for the last five (5) years. To require such Certification, subcontractor will use the Request for Copy and/or Certification of Income Tax Returns Form issued by the Treasury Department of Puerto Rico. Subcontractor shall also submit a Certification of Debt issued by the Treasury Department of Puerto Rico, Area of Internal Revenues.
- B. Certification issued by the Municipal Revenues Collection Center "(CRIM)", assuring that the subcontractor does not owe any tax to such governmental agency. To require such Certification, subcontractor will use the form issued by the CRIM.
- C. Certificate issued by the Human Resources and Labor Department of Puerto Rico, assuring that the subcontractor has paid to the Human Resources and Labor Department his employees contributions, in accordance with the Puerto Rico Employment Security Act (unemployment, temporary disability or sickness or social security for chauffeurs), or is paying such contributions by an installment plan in full compliance with its terms. To require such Certification, subcontractor will use the form issued by the Human Resources and Labor Department of Puerto Rico.

It is expressly agreed that this condition is an essential requirement of the present Contract and if the above Certification is not correct in whole or in part, this will be sufficient cause to cancel this contract. If such cancellation takes place, the Contractor shall be obligated to reimburse to PREPA all the payments received under this Contract. The Contractor obliged to provide PREPA, copy of all documents, previously listed, within five (5) days of the execution of a Contract between the Contractor and any subcontractor.

SIXTEENTH: This Contract shall be governed by, and construed in accordance with the laws of the Commonwealth of Puerto Rico. Also, the contracting parties expressly agree that only the state courts of Puerto Rico will be the courts of competent and exclusive jurisdiction to decide over the judicial controversies that the appearing parties may have among them regarding the terms and conditions of this contract.

SEVENTEENTH: The Contractor certifies that he may have consulting services contracts with other governmental agencies or bodies, but such condition does not constitute a conflict of interest for the Contractor. The Contractor acknowledges he has a duty of complete loyalty toward PREPA in rendering his professional services, which includes not having adverse interests to PREPA. Those adverse interests include representation of clients with

interests in opposition of those of PREPA. Also, the Contractor shall have the continuous obligation to disclose to PREPA all information and circumstances of its relations with clients and third persons and any interest which could influence PREPA when executing this Contract or during its term.

The Contractor represents conflicting interests when on behalf of a client he must contend for that which is his duty to oppose in order to comply with his obligations with another previous, present or potential client. Also the Contractor represents conflicting interests when, his conduct is described as such in the canons of ethics of the profession applicable to the Contractor or his personnel, or in the laws or regulations of the Commonwealth of Puerto Rico.

In contracts with partnerships or firms, in the event that any of the partners, directors or employees of the Contractor should incur in the conduct described herein, said conduct shall constitute a violation to the prohibitions provided herein.

The Contractor shall avoid even the appearance of the existence of conflicting interests.

The Contractor acknowledges that the Executive Director of PREPA shall have the power to intervene the acts of the Contractor and/or its agents, employees and subcontractors regarding the enforcement of the prohibitions contained herein. In the event that the Executive Director of PREPA should discover the existence of adverse interests with the Contractor, the Executive Director shall inform the Contractor, in writing, of PREPA's intention to terminate this contract within a thirty days (30) period. During said period, the Contractor may request a meeting with the Executive Director to present his arguments regarding the alleged conflict of interests, which meeting shall be granted by PREPA in every case of alleged conflict of interests. In the event that the Contractor does not request such a meeting during the specified thirty (30) days period or the controversy is not satisfactorily settled during the meeting, this contract shall be canceled.

EIGHTEENTH: The Contractor shall not assign nor subcontract its rights and obligations under this contract, except in the event PREPA gives written authorization for the same.

NINETEENTH: If a court of competent jurisdiction declares any of the contract provisions as null or invalid, such holding will not affect the validity and effectiveness of the remaining provisions of the Contract, and the parties agree to comply their respective obligations under such provisions not included by the judicial declaration.

TWENTY: The Contractor agrees to save and hold harmless, and to indemnify PREPA, for all expenses and costs of any nature (including attorneys' fees) incurred by PREPA, arising out of any claim made by any person for personal injuries, including death, or for property damage, caused by the Contractor, by

act or omission, in the performance or nonperformance of its obligations under the Contract.

TWENTY-FIRST: Any notice to be given hereunder shall be in writing and will be sufficiently served when delivered in person or properly mailed to the following addresses:

To PREPA:

Puerto Rico Electric Power Authority

PO Box 364267

San Juan, PR 00936-4267

Attention:

Mr. Héctor R. Rosario Hernández

Executive Director

Copy to:

John A. Uphoff Figueroa, Esq.

Puerto Rico Electric Power Authority

PO. Box 9386

San Juan, Puerto Rico 00908-0386

To Contractor:

Dr. José Rafael Carlo Izquierdo

[Mailing Address]

Attention:

Contractor's representative.

TWENTY-SECOND: During the term of this Contract, any change in law, including, but not limited to, changes in applicable tax law, which causes an increase in Contractor's costs when supplying the products or services to be acquired by PREPA, shall be of Contractor's responsibility, and PREPA shall not be obliged to make additional payments nor to pay additional sums to the price or canon originally agreed for those products or services.

TWENTY-THIRD: The Contractor, at its own expense, shall defend any suit or action brought against PREPA based on a claim that any equipment or part thereof, copyright or uncopyrighted composition, secret process, patented or unpatented invention, article, or appliance manufactured or used in the performance of this contract, including their use by PREPA, constitutes an infringement if any patents or copyrights of the United States, if notified promptly in writing by PREPA, and given the authority, information, and assistance for the defense of the same, and the Contractor shall pay all damages and costs awarded therein against the PREPA. If, in such suit, the equipment or any part thereof, or the composition, secret process, invention, article or appliance, is held to constitute infringement and its use is enjoined, the Contractor, at its option and expense, shall either procure for PREPA the right to continue using the same, or replace it with non-infringing equipment, composition, secret process, invention, article or appliance, or modify it so it becomes non-infringing; or remove it and refund the purchase price.

TWENTY-FOUR: The parties hereto shall be excused from performing hereunder and shall not be liable in damages or otherwise, if and only to the extent that they shall be unable to perform, or are prevented from performing by a Force Majeure event. For purposes of this contract, Force Majeure means any cause without the fault or negligence, and beyond the reasonable control of, the party claiming the occurrence of a Force Majeure. Force Majeure may include, but not be limited to, the following: Acts of God, industrial disturbances, acts of the public enemy, war, blockages, boycotts, riots, insurrections, epidemics, earthquakes, storms, floods, civil disturbances, lockouts, fires, explosions, interruptions of services due to the acts or failure to act of any governmental authority, and failure of any subcontractor or supplier to perform, provided that these events, or any other claimed as a Force Majeure, and/or its effects, are beyond the reasonable control and without the fault or negligence of the party claiming the Force Majeure, and that such party, within ten (10) days after the occurrence of the alleged Force Majeure, gives the other party written notice describing the particulars of the occurrence and its estimated duration. burden of proof as to whether a Force Majeure has occurred shall be on the party claiming the Force Majeure.

PREPA and the Contractor expressly agree that no TWENTY-FIVE: amendment or change order which could be made to the Contract, during its term, shall be understood as a contractual novation, unless both parties agree to the contrary specifically and in writing. The previous provision shall be equally applicable in such other cases where PREPA gives the Contractor a time extension for the compliance of any of its obligations under the Contract, or where PREPA dispenses the claim or demand of any of its credits or rights under the Contract.

Under no circumstances, except in such one where PREPA agrees to the contrary specifically and in writing, PREPA's rights under the Contract shall be understood as waived by any amendment, change order, time extension to the Contractor, or by reason of dispense given by PREPA as to a claim or demand of any of its credits or contractual rights, even if PREPA has agreed, as provided under the previous paragraph, that any of these circumstances constitute a contractual novation, and PREPA by these means expressly reserves its right to claim and demand its credits and rights, and the compliance of any and all the contractual obligations of the Contractor, as if such amendment, change order, time extension dispense, or novation, if any, had not been effectuated.

IN WITNESS WHEREOF, the parties here to have executed this Contract as of

the day and year first above written.

PUERTO RICO ELECTRIC POWER

Mr. Héctor R. Rosario Hernández **Executive Director**

UNIVERSITY OF PUERTO RICO MEDICAL SCIENCE CAMPUS Dr. José Rafael Carlo Izquierdo Chancellor

₩₩VIEW

Recommended by: Dr. Antonio Silva Iglecia Senior

Graduate School of Public Health

Recommended by: Dr. José Norat Ramírez

Professor

Environmental Health Departemt

APPENDIX M

ADDITIONAL ENVIRONMENTAL PROJECTS COORDINATOR

San Juan, Puerto Rico

Cable Address PREPA



PO Box 364267 San Juan, Puemo Rico (499.36-4207

March 26, 1999

Lois J. Schiffer, Esq.
Assistant Attorney General
Environmental and Natural Resources Division
U. S. Department of Justice
PO Box 7611
Ben Franklin Station
Washington, D. C. 20044

Re: DOJ Case No. 90-5-2-1-1750

Dear Ms. Schiffer:

Pursuant to Article XII, Section A of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U. S. District Court for the District of Puerto Rico, on March 17, 1999, even though we have not been officially notified by the Clerk of the Court, advanced notice is hereby given that Eng. Juan Ribot Aponte has been designated as Additional Environmental Projects Coordinator on behalf of PREPA.

Very truly yours,

El Matos Alidea

Head, Environmental Law Division

APPENDIX N

FIRE DEPARTMENT HAZMAT TRAINING PROGRAM

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

April 15, 1999

CERTIFIED MAIL P 235 571 946

Mr. Andrew L. Praschak Region II, Caribbean Environmental Protection Division Centro Europa Building, Suite 417 1492 Ponce de Leon Ave. Santurce, PR 00907

Dear Mr. Praschak:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Article XII, Section B of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U. S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the workplan for the Fire Department Hazmat Training.

Cordially,

Eli Matos Alicea

Environmental Law Division

Enclosure

San Juan, Puerto Rico





PO Box 364267 San Juan, Puerto Rico 00936-4267

April 15, 1999

CERTIFIED MAIL P 235 571 945

Ms. Lois J. Schiffer, Chief **Environmental Enforcement Section** U.S. Department of Justice P.O. Box 7611 Ben Franklin Station

Washington, DC 20044

Dear Ms. Schiffer:

Re: DOJ Case No. 90-5-2-1-1750

Pursuant to Article XII, Section B of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America, entered by the U.S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the workplan for the Fire Department Hazmat Training.

Cordially,

Environmental Law Division

Enclosure

SAN JUAN, PUERTO RICO

Cable Adrress PREPA



PO Box 364267 San Juan, Puerto Rico 00936-4267

April 15, 1999

CERTIFIED MAIL P 235 571 947

Mr. Walter Mugdan U. S. Environmental Protection Agency Regional Counsel, Region II Office of Regional Counsel 290 Broadway New York, NY 10007-1866

Dear Mr. Mugdan:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant to Article XII, Section B of the Consent Decree between the Puerto Rico Electric Power Authority (PREPA) and the United States of America entered by the U. S. District Court for the District of Puerto Rico, on March 19, 1999, enclosed please find the workplan for the Fire Department Hazmat Training.

Cordially,

Environmental Law Division

Enclosure





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF REGIONAL COUNSEL CENTRO EUROPA BUILDING, SUITE 207 1492 PONCE DE LEON AVENUE, STOP 22 SAN JUAN, PR 00907-4127

September 10, 1999

Mr. Eli Matos Head Environmental Law Division Puerto Rico Electric Power Authority P.O. Box 364267 San Juan, Puerto Rico 00936-4267

OPTIONAL FORM 99 (7-90)	another Approval!
FAX TRANSMI	
"John Uphoff	From APrapilial
Oept./Agency	Phone #
Fax 289-4440	Fax #
NSN 7540-01-317-7368 5099	1-101 GENERAL SERVICES ADMINISTRAT

Re: <u>U.S. v. PREPA</u> Consent Decree Compliance; Civil Action No. 93-2527 Conditional Approval of Workplan for the Fire Department Hazmat Training

Dear Mr. Matos:

This letter is being written in order to provide PREPA with a conditional approval of the Workplan for the Fire Department Hazmat Training, provided to EPA on April 15, 1999, pursuant to Section XII. B. of the above-referenced Consent Decree.

Conditional approval is being granted to this Workplan, with the understanding that PREPA will address and incorporate the following comments into the Workplan and the Hazmat Training which results from it, pursuant to the Consent Decree:

- 1) The first day of the Hazmat Training (page 2 of the Workplan), which is designed to provide first aid and pulmonary resuscitation instruction should be specifically designed to complement any previous basic training that Fire Department officials may have already received as part of their routine training and responsibilities.
- The Hazmat Training should incorporate an appropriate discussion of PREPA's Emergency Response Plan.
- 3) The Hazmat Training should be designed to require that during the final session of the five day training, (page 6 of the Workplan) each of the participants will provide an evaluation of the quality of the Training. These evaluations as well as the final exam scores of the participants' should be included in the Final Report.
- 4) The Hazmat Training Workplan should be amended to more fully explain the steps that will be taken to ensure, to the greatest extent possible, that the Puerto Rico Fire Department bave at least one representative from the Fire Department of each municipality at one of the Hazmat Training Seminars.

In addition, because the Workplan does not provide copies of reference information to be provided to the participants, EPA requests an opportunity to review and comment on the Training Curriculum once it is developed.

SEP-13-99 MON 11:37 AM

PAGE

P.02/02

With the understanding that the above comments will be adequately incorporated into the Hazmat Training Workplan as well as the Training itself, the Workplan as submitted to EPA is hereby conditionally approved. With this approval, EPA also requests that PREPA devise and submit to EPA, an appropriate time schedule for implementation of the various tasks, including but not limited to, the projected dates for the presentation of each of the seven Training sessions anticipated by the Workplan. Such a schedule should be devised to ensure that PREPA is in compliance with the requirement of Section XII. B. 7. of the Consent Decree, that by March 16, 2001, "PREPA shall submit a final report detailing all activities completed as part of the Fire Department Hazmat Training Program and all expenditures PREPA made as part of this program."

Please don't hesitate to contact me if you would like to discuss this or any other aspect of PREPA's compliance with the Consent Decree.

Sincerely yours,

FAX:787 2894440

Andrew L. Praschak

Associate Regional Counsel

CC: W. Mugdan, ORC (via e-mail)

C. Soderberg, CEPD (via e-mail)

H. Vélez, ORC (via e-mail)

T. Rodríguez, CEPD

G. Garrison, CEPD

L. Lugo, PREPA

M. Cordero, PREPA

J. Segurola, PREPA

J. Uphoff, PREPA

J. Ribot, PREPA



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF REGIONAL COUNSEL CENTRO EUROPA BUILDING, SUITE 207 1492 PONCE DE LEON AVENUE, STOP 22 SAN JUAN, PR 00907-4127



<u>Certified Mail</u>
<u>Return Receipt Requested</u>

April 24, 2000

Mr. John Uphoff - Figueroa Environmental Law Division Puerto Rico Electric Power Authority P.O. Box 9386 San Juan, Puerto Rico 00907-0386

Re: <u>U.S. v. PREPA</u> Consent Decree Compliance; Civil Action No. 93-2527 Approval of Revised HazMat Training Workplan

Dear Mr. Uphoff:

I am writing to inform you that EPA has Approved the revised Workplan for the Fire Department HazMat Training, pursuant to Section XII. B. 5 of the Consent Decree. This revised version of the Workplan was submitted to EPA on October 12, 1999.

Please refer to Section XII. B. of the Consent Decree to ensure that the program is fully implemented in the manner required by the terms of the Additional Environmental Projects Section of the Consent Decree.

Please don't hesitate to call me if you would like to discuss this or any other aspect of compliance with the Consent Decree.

Sincerely yours,

Andrew L. Praschak

Associate Regional Counsel

cc: W. Mugdan, ORC (via e-mail)

C. Soderberg, CEPD (via e-mail)

H. Vélez, ORC (via e-mail)

T. Rodriguez, CEPD

G. Garrison, CEPD

M. Cordero, PREPA

E. Matos, PREPA

PROTECCIÓN ACCIONAL Y COMPRENIDAD DE CALIDAD

GOVERNMENT OF PUERTO RICO PUERTO RICO ELECTRIC POWER AUTHORITY

www.prepa.com



February 22, 2001

Region II, Caribbean Environmental Protection Division Centro Europa Bldg., Ste. 417 1492 Ponce de León Ave. Santurce, PR 00907

Ladies and Gentlemen:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant Article XII, Section B of the Consent Decree between the United States of America and the Puerto Rico Electric Power Authority, enclosed please find the Final Report for the Fire Department Hazmat Training Program.

If you have any questions regarding the Fire Department Hazmat Training Program, please do not hesitate to contact us at (787) 289-4959.

Cordially,

Luis M. Morales Tañón, Acting Head

Environmental Protection and Quality Assurance Division

Enclosure

GOVERNMENT OF PUERTO RICO PUERTO RICO ELECTRIC POWER AUTHORITY

www.prepa.com



February 22, 2001

Environmental Enforcement Section Environment and Natural Resources Division US Department of Justice Post Office Box 7611 Ben Franklin Station Washington, DC 20044

Ladies and Gentlemen:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant Article XII, Section B of the Consent Decree between the United States of America and the Puerto Rico Electric Power Authority, enclosed please find the Final Report for the Fire Department Hazmat Training Program.

If you have any questions regarding the Fire Department Hazmat Training Program, please do not hesitate to contact us at (787) 289-4959.

Cordially

Luis M. Morales Tañón, Acting Head

Environmental Protection and Quality Assurance Division

Enclosure

GOVERNMENT OF PUERTO RICO PUERTO RICO ELECTRIC POWER AUTHORITY



www.prepa.com



February 22, 2001

U.S. Environmental Protection Agency Regional Counsel, Region II Office of Regional Counsel 290 Broadway New York, NY 10007-1866

Ladies and Gentlemen:

RE: DOJ Case No. 90-5-2-1-1750

Pursuant Article XII, Section B of the Consent Decree between the United States of America and the Puerto Rico Electric Power Authority, enclosed please find the Final Report for the Fire Department Hazmat Training Program.

If you have any questions regarding the Fire Department Hazmat Training Program, please do not hesitate to contact us at (787) 289-4959.

Cordially,

Luis M. Morales Tañón, Acting Head

Énvironmental Protection and Quality Assurance Division

Enclosure

FIRE DEPARTMENT HAZMAT TRAINING FINAL REPORT

Certification by PREPA's Planning and Environmental Protection Director

In my capacity as the Planning and Environmental Protection Director of PREPA, I hereby certify, under penalty of law, that the information contained in or accompanying this submission was prepared by qualified personnel who properly gathered and evaluated the information submitted. I further certify, based on my inquiry of the person or persons responsible for gathering such information, that the information submitted is true, accurate, and complete.

Hector M. Alejandro, Agring Director Planning and Environmental Protection

REPORT ON HAZWOPER 40 HRS. OF OSHA TRAINING TO THE FIRE DEPARTMENT OF PUERTO RICO

I. Chronology of Events:

- A. September, 1997 A proposal rough draft was prepared to fulfill the requirement of the Fire Departmet Hazmat Training included in the Consent Decree.
- B. October, 1997 The draft was sent to the Environmental Protection Division and the Environmental Law Division for their evaluation.
- C. August, 1998 Our proposal was approved. We were requested to present a Work Plan for EPA's evaluation. Also, meetings with staff members of The Fire Department of Puerto Rico for the coordination of the Training were begun.
- D. January, 1999 We requested a step van from the Ground Transportation Division, to have it repaired and customized as a Hazmat Vehicle.
- E. March, 1999 The Work Plan was presented to the Environmental Protection Division.
- F. April, 1999 The Work Plan was sent to EPA for their approval.
- G. May, 1999 The Ground Transportation Division assigned vehicle 1-3052 to the Occupational Safety Office. We requested a proposal from CAREMCO for the body repair and customization of the step van.
- H. September, 1999 The Work Plan was approved by EPA. Also, the proposal for the body repair and customization of the step van was received.
- I. October, 1999 The step van was taken to CAREMCO for its repair and customization. Also, the review of PREPA's handbook for the HAZWOPER Training to include additional sections required by EPA.

J. November, 1999 to April, 2000 – Follow up visits to monitor the customization progress of the step van were made to CAREMCO.

K. April, 2000 – We requested the printing of 500 copies of the HAZWOPER Training Handbook from PREPA's Press.

L. May, 2000 – The now Hazmat Vehicle (Training and Emergency Response Mobile Unit, UMARE, in spanish) was picked up from CAREMCO.

M. June, 2000 – A meeting with the Staff Members of The Fire Department of Puerto Rico was held to select dates for the Training. The following schedule was agreed upon:

DATE	REGION
August 14 to 18, 2000	Aguadilla
September 11 to 15, 2000	Ponce
September 25 to 29, 2000	San Juan
October 16 to 20, 2000	Aguadilla
October 30 to November 3, 2000	Ponce
November 13 to 17, 2000	San Juan
December 11 to 15, 2000	San Juan

N. July, 2000 – Coordination for coffee breaks and lunches were made for all trainings. Materials still needed were bought and the audiovisual equipment and training handbooks were picked up.

O. August to December, 2000 – Training sessions were offered as scheduled.

II. Expenses:

A. Man hours worked by personnel from the Hazard Communication Section since September, 1997 to December, 2000:

Employee	Total Hours Worked	Salary (by the hour)	Total
Ivelisse Sánchez Soultaire	380	\$27.70	\$10,526.00
Efraín Sánchez Vázquez	420	\$22.43	\$9,420.60
Nora Mercado Ortiz	200	\$16.27	\$3,254.00
Nora Wercado Ortiz	200	\$16.27	\$3,254. \$23,200

B. Travel expenses reimbursement to personnel from the Hazard Communication Section:

Employee	Total Travel Expenses
Ivelisse Sánchez Soultaire	\$2,300
Efraín Sánchez Vázquez	\$2,500
	Meter 82, 3(0))

C. Expenses for the body repair, customization and equipment installed in the 1-3052 Hazmat Vehicle (UMARE):



D. Equipment purchases:

protective equipment and tools) \$2607.65 Grainger (pampers, salvage drum. \$951.00	Supplier	Expenses
Grainway (managed)	PREPA's Warehouses (personal protective equipment and tools)	99
	Grainger (pampers, salvage drum.	

E. Expenses for Coffee Breaks and Lunches:

Training	Exper	ises
Aguadilla – 1	Coffee Break:	\$ 509.33
	Lunch:	\$1,252.50
Ponce – 1	Coffee Break:	\$ 395.78
	Lunch:	\$1,356.25
San Juan – 1	Coffee Break:	\$ 513.60
	Lunch:	\$ 954.50
Aguadilla – 2	Coffee Break:	\$ 369.24
	Lunch:	\$1,312.50
Ponce – 2	Coffee Break:	\$ 548.62
	Lunch:	\$1,155.00
San Juan – 2	Coffee Break:	\$ 499.44
	Lunch:	\$ 940.00
San Juan - 3	Coffee Break:	\$ 220.45
	Lunch:	\$ 940.00
	ગુંબલા કતા) 913 7 <i>2</i> 01

F. Purchase of the DOT Emergency Response Guidebook:



G. Expenses for First Aid and CPR Training:

Total total 1700 people @ \$55,000 people sone \$2,350 (10

H. Expenses Total:

Expense	Quantity
Salary	\$23,200.60
Travel Expenses	\$ 4,800.00
Repair, Customization and Equipment Purchase for the Hazmat Vehicle	\$92,500.00
Other Equipment Purchases	\$ 3,558.74
Coffee Brakes and Lunches	\$10,967.21
DOT Emergency Response Guidebook	\$ 519.15
First Aid and CPR Training	\$ 9,350.00
	शिर्म्यक्षणात्रकः = स्थलात् गुल्हाः

III. Personnel Trained:

(Please see following pages.)

Lista de participantes adiestramiento HASWOPER 40 HRS CUERPO DE BOMBEROS REGION PONCE

14 al 18 de agosto de 2000

NOMBRE	SEGURO SOCIAL	ESTACIÓN O DISTRITO
Acevedo Meléndez, Antonio	582-96-3748	Estación Añasco
Cardé Vargas, Félix	582-21-2537	Estación San Sebastián
Cardona Malavé, Wilfredo	584-79- 8432	Estación Cabo Rojo
Carrero Rodríguez, Wilson	583-05-1062	Estación Aguadilla
del-Río González, Marcos R.	584-29-6603	Estación Aguadilla
Echevarría Pellot, Jesús	583-09-9068	Estación Isabela
Feliciano Hernández, Ernesto	056-58-8348	Estación Aguadilla
Gelabert Bahamundi, Gabriel	583-23-7959	Estación Poblado Rosario
González Pérez, Alejandro	582-27-8067	Estación Aguadilla
Hernández González, Rafael	582-04-8052	Estación Aguadilla
Jordán Cortés, Wilfredo	582-88-9960	Estación Rincón
López García, Harry N.	581-71-8808	Estación Mayagüez
López Medina, José M.	584-51-4571	Estación Mayagüez
Méndez López, Jorge A.	582-21-3339	Estación Mayagüez
Morales González, Luis A.	582-31-7749	Estación Mayagüez
Ortiz Pardo, Daniel A.	584-61-8022	Estación Hormigueros
Pérez Muñiz, Jesús M.	599-09-7639	Estación Aguadilla
Planell Ramos, Ramsey	582-55-8618	Estación Aguadilla
Ramos Morales, Jesús	583-46-8828	Estación Aguadilla
Rodríguez Rivera, José A.	583-21-1705	Estación Las Marías
Santiago Rosado, Antonio	583-76-1951	Estación Aguadilla
Soto Aquino, Miguel A.	584-30-7889	Estación San Sebastián
Vidal Rodríguez, Noé	582-81-9862	Estación Lajas

Lista de participantes adiestramiento HASWOPER 40 HRS CUERPO DE BOMBEROS REGION PONCE

11 al 15 de septiembre de 2000

NOMBRE	SEGURO SOCIAL	ESTACIÓN O DISTRITO
Calixto Rodríguez, Santos	584-15-9139	Estación Guayama
Caminero Ramos, César E.	582-63-1181	Estación Ponce
Colón Pagán, Cristopher	584-80-9122	Estación Adjuntas
Colón Torres, José A.	583-04-7133	Estación Jayuya
De Armas Domínguez, Martín	582-04-6944	Estación Guayama
Echevarría García, José A.	583-53-8471	Estación Santa Isabel
Irizarry Rodríguez, Roberto	581-13-0634	Central Ponce
Marín Reyez, Jorge	583-13-0167	Estación Jayuya
Meléndez Muñoz, Elvin	582-75-0179	DOE Ponce Central
Merle Rodríguez, Carlos	582-02-6444	Estación Guayama
Morales Morales, Martín	584-39-4834	Estación Guayama
Negrón Vargas, Danny	584-84-7715	DOE Ponce Central
Ortiz Delgado, Wanda	581-57-3529	Estación Villalla
Ortiz González, Juan A.	584-64-8865	Ponce Central
Pérez Sánchez, Luis E.	583-49-3952	Estación Salinas
Reyes Velázquez, Vidal	584-67-4393	Estación Aguirre
Rivera Rosado, Juan I.	583-28-8113	Estación Arroyo
Rivera Santiago, Juan J.	583-51-8368	Adiestra. Base Naval
Rodríguez Huertas, Héctor R.	581-49-3118	Estación Guayama
Román Picart, Longino	599-07-4085	DOE Ponce Central
Rosado Cintrón, Reinaldo	580-96-9605	Estación Juana Díaz
Rosado Colón, Pedro M.	581-41-1573	DOE Ponce Central
Rosado Olivieri, Wanda I.	583-67-6737	DOE Ponce Central
antiago Cartagena, Luis A.	581-06-3319	Estación Coamo
antiago Negrón, Alejandro	583-75-5317	Estación Guayama
olis Merle, Carlos M.	583-60-6879	Estación Patillas

Lista de participantes adiestramiento HAZWOPER 40 HRS CUERPO DE BOMBEROS REGION SAN JUAN

25 al 29 de septiembre de 2000

NOMBRE	SEGURO SOCIAL	ESTACIÓN O DISTRITO
Aviles García, Wilma	583-04-6788	Estación Ceiba
Baéz Pastrana, Nelson	584-41-6754	Estación Carolina
Camacho Ruiz, Domingo	583-34-3330	Estación Yabucoa
Guerrido Rivera, Elliot	584-16-9890	Estación Río Piedras
Montoyo Rodríguez, Nestor	584-34-3665	Estación Luquillo
Muñiz Hernández, Juan	581-69-8244	Estación San Juan
Ortiz De León, Ramón	581-57-7059	DOE Hato Rey
Ortiz Ortiz, Richard	584-85-2366	Estación Aibonito
Pérez Pérez, Efraín	584-31-2446	Distrito San Juan
Piñero Díaz, James	584-86-0272	DOE Hato Rey
Poupart Cruz, Benedicto	581-35-4970	Distrito Humacao
Rivas Sánchez, Miguel A.	583-22-0932	Estación Canovanas
Rivera Rodríguez, Omayra	584-19-4794	Estación Hnas. Dávila Bay.
Rodríguez Aponte, Juan A.	583-58-4941	Distrito Río Piedras
Rodríguez Reyes, Aníbal	581-57-5043	Estación Bayamón
Rodríguez Rodríguez, Abimael	584-59- 4620	Distrito San Juan
Torrales Cabreras, Angel M.	581-92-6871	Estación Puerto Nuevo
orres Rodríguez, Billy	584-93-9523	Prevención Incendios Caguas
Velázquez Fontanez, Eric	581-19-4817	Distrito Caguas
elázquez Villegas, Víctor	583-53-2740	Distrito San Juan

Lista de participantes adiestramiento HAZWOPER 40 HRS CUERPO DE BOMBEROS REGION MAYAGÜEZ

16 al 20 de octubre de 20	00
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NOMBRE	SEGURO SOCIAL	ESTACIÓN O DISTRITO
Bonilla Concepción, Richard	581-39-5734	Estación Aguadilla
Cruz Maldonado, Gamalier	583-83-1230	Estación Aguadilla
Díaz Montalvo, Neftali	584-41-5629	Estación San Germán
González Alvarado, Michael	584-49-0824	Estación Isabela
Gónzalez Concepción, Edwin	581-47-7279	Estación Aguadilla
Gutiérrez Liboy, Carlos A.	598-20-9165	Estación Mayagüez
Hernández Ferrer, Héctor	583-76-1504	Estación Moca
Ortiz López, Ismael	584-32-2597	Estación Isabela
Padilla Torres, Alexander	582-71-1966	Estación Sabana Grande
Pérez Nieves, Monserrate	101-58-2577	Estación Mayagüez
Polanco Albino, Juan J.	598-12-5465	Estación Cabo Rojo
Quintana Carrero, William	583-83-9555	Estación Las Marías
Quiñonez Tirado, Abigail	581-71-3011	Estación Poblado Rosario
Ramos Arroyo, Wilfredo	584-55-0749	Estación Añasco
Ramos Rodríguez, Dennis	132-58-5153	Estación Maricao
Ríos Cardona, Jaime O.	582-04-9770	Estación Mayagüez
Rivera Vega, Juan	584-29-4223	Estación Aguadilla
Sánchez Pérez, Edgardo	582-51-8259	Estación San Sebastián
Soto Vargas, Angel Luis	582-27-9769	Estación Boquerón
Torres Ortiz, Rafael	582-61-7748	Estación Aguadilla
Vale Feliciano, José J.	581-55-2460	Estación Mayagüez
Valle González, Antonio	121-60-6192	Estación Hormigueros
argas Santana, Ferdinand	584-88 -7215	Estación Lajas

Lista de participantes adiestramiento HAZWOPER 40 HRS CUERPO DE BOMBEROS REGION PONCE

30 de octubre al 3 de noviembre de 2000

NOMBRE	SEGURO SOCIAL	ESTACION O DISTRITO
Alicea Alvarez, Alberto	581-23-3711	Guayanilla/Ponce
Bonet Mercado, Carlos A.	584-50-8472	Estación Ponce Central
Colón Cosme, Junior A.	581-75-5757	Estación Ponce Central
Colón de Jesús, Carlos R.	584-16-0199	Estación Guayama
Cotto Rodríguez, Aderman	583-89-6279	Sta. Isabel/Guayama
De Jesús Ortiz, Antonio F.	596-01-2383	Estación Coquí/Salinas
Enchautegui Rivera, Carlos M.	582-85-1443	Estación Guayama
Feliciano Santiago, Enrique	582-27-7836	Estación Ponce Playa
Ferrer Caraballo, David	584-43-1687	Estación Yauco
Gelabert Santiago, Santos	582-57-3821	Estación Peñuelas
González López, Osvaldo	582-78-2614	Central Ponce
Guzmán Negrón, Robert J.	584-45-9314	Estación Villalba
Hernández Torres, Janette	581-15-7611	Estación Ponce Central
Maldonado Sierra, Ruber	581-06-0643	Estación Ponce Playa
Martínez Vargas, Ramón	584-60-6258	Estación Santa Isabel
Meléndez Vázquez, Juan A.	581-11-5722	Estación Guayama
Ramírez Pirela, José A.	583-77-3441	Estación Guayama
Rivas Montañez, Julián	596-03-8400	Estación Patillas
Rodríguez Figueroa, Geraldo	581-57-8953	Estación Guánica
Rodríguez Ortiz, Aracelia	581-67-0456	Estación Guayama
Rosado Santiago, Héctor L.	582-43-3032	Estación Ponce/DOE
antiago Estrada, Argel M.	584-69-3138	Estación Guayama
epúlveda Chavier, Edwin	584-79-4105	Estación Ponce
ilva Román, Héctor L.	584-24-8147	Estación Salinas
oto Martínez, Jormil	584-53-5412	Estación Ponce
oto Meléndez, Luis A.	581-33-4409	Estación Coamo
argas Escobar, Celestino	584-88-4869	Estación Ponce

Lista de participantes adiestramiento HAZWOPER 40 HRS CUERPO DE BOMBEROS REGION SAN JUAN

13 al 17 de noviembre de 2000

NOMBRE	SEGURO SOCIAL	ESTACION O DISTRITO
Burgos Hernández, Félix	584-59-8380	Las Piedras/Humacao
Díaz Villegas, Carlos M.	584-85-5339	Distrito Caguas
Espinosa González, José	583-40-1896	Distrito Humacao
González, Jimmy	584-42-5223	Distrito Río Piedras
Hernández Beltrán, Nancy J.	581-35-1333	Estación Naranjito
Laboy Centeno, Juan	583-84-0467	Estación Loiza
Loperena Lugo, José A.	584-84-7379	Estación San José
Mejías Maldonado, Miguel A.	582-72-3430	Distrito San Juan
Morales Jiménez, Julio A.	583-53- 4564	Distrito San Juan
Moreno Cordero, Iván A.	581-69-8700	Distrito San Juan
O'Neill González, José F.	580-98-8252	Estación Río Grande
Ocasio Rosado, Josué	581-49-2966	Estación Hato Rey
Ortiz Cortés, Aquilino	582-21-2114	Distrito Bayamón
Pereira Mercado, Eddie N.	584-02-8102	Gurabo/Distrito Caguas
Pérez Alamo, Antonio	583-23-5375	Gurabo/Distrito Caguas
Requena Vázquez, Orlando	599-03-6178	Estación Barceloneta
Ríos Ortiz, Wilfredo	599-98-1541	Estación Barceloneta
Rivera Abrams, Víctor	584-19-9295	Distrito San Juan
Rivera Fontánez, César E.	583-08-6019	Estación Hato Rey
Ruiz Alfaro, Pedro G.	583-49-4668	Estación Arecibo
Santos Echevarría, Reinaldo	596-01-4556	Estación Arecibo
Vargas Rodríguez, Jorge L.	581-19-5829	Estación Arecibo
Vázquez Roche, Luis	583-72-5555	Estación Cayey

Lista de participantes adiestramiento HAZWOPER 40 HRS CUERPO DE BOMBEROS REGION SAN JUAN

11 al 15 de diciembre de 2000

NOMBRE	SEGURO SOCIAL	ESTACION O DISTRITO
Arroyo Díaz, Iván	581-69-8132	Estación Barceloneta
Cardona Valentín, Raymond J.	582-69-0176	Estación Arecibo
Fernández Piñeiro, Ernesto	584-72-8736	Estación Juncos/Humacao
Garay Figueroa, Ernesto	584-03-9574	Estación Culebra
González García, Ismael	584-50-4795	Estación Maunabo
Marcano Rivera, Ismael	022-60-3215	Estación Cataño/San Juan
Marín Daleccio, Marta	583-37-5268	Estación Bayámón
Monge Román, Melvin	584-13-7039	Unidad Maritima/Cataño
Morales Alverio, Félix M.	328-64-6597	Estación Puerto Nuevo
Morales Sierra, Vidal	581-33-7777	Estación Comerio
Oquendo Díaz, Carlos	581-93-4467	Estación Río Piedras
Ortiz Morales, Francisco	583-80-1315	Estación San Lorenzo
Pastrana López, Vidal	581-02-6790	Estación Metropolitana
Piñero Gago, Eulando	584-21-2194	Div. Operaciones Especiales
Ramos Rivera, Miguel A.	584-17-1915	Distrito Carolina
Rivera Cortés, Miguel A.	584-33-9767	Estación Cidra
Rivera Quiles, Nelson	584-74-5386	Estación Río Piedras
Rivera Ríos, Félix	584-37-6463	Estación Arecibo
orres Acevedo, José A.	584-63-7822	Estación Metro-San Juan
orres Colón, Jorge	582-69-1423	Estación Río Piedras
ega Rosado, Alberto	582-67-3176	Estación San Juan